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An illustrated resource guide is organized in three main sections. The first, containing articles on criteria for selecting materials, sets a philosophical base for making desirable choices. The second presents two types of listings: (1) a comprehensive overview, and (2) suggested materials for specific numbers of children within given age-developmental levels. The third section contains a "catalog of catalogs"--annotated lists of manufacturers and distributors, and advertising pages. Some additions in this revision are: (1) sample evaluation forms--for both single items and packaged materials; (2) suggestions for two other developmental levels, infancy and early adolescence; and (3) articles by informed educators. (Author/MLF)

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Selecting Educational Equipment and Materials

For School and Home

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EA 008 258

DEDICATED
IN
GRATEFUL MEMORY
TO
ANNE L. CHRISTENSEN
MEMBER, ACEI EQUIPMENT AND SUPPLIES COMMITTEE
1971-1973

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Introduction

This publication is designed as an aid to the selection, procurement and use of quality materials that will help meet the growing and learning needs of children from infancy through early adolescence. We hope it will be a usable, practical resource.

The Guide is organized into three main sections. *The first section* contains articles that deal with criteria for selecting materials and set a philosophical base for making desirable choices. *The second section* presents two types of listings: (1) a comprehensive survey—based on the work of three Equipment and Supplies Committees—with developmental needs indicated and (2) suggested[*] materials for specific numbers of children within given age-developmental levels. *The third section* contains a "catalog of catalogs"—annotated lists of manufacturers and distributors—and advertising pages.

BY WAY OF BACKGROUND

Sales records of the first and succeeding editions of this bulletin, first published in 1925 under the title of *Equipment and Supplies*, are evidence of the usefulness of such resource-listings to educators and parents. About fifty years and over a dozen revisions later, a complete updating and modernizing of the content is past due.

Toward this end, at least three different ACEI Equipment and Supplies Committees have been working for more than five years to ready this bulletin for press.

Why the delay? Problems! Problems! Problems! In their sincere efforts to retain the best of the old and to meet the needs of a changing society, the committees have had to consider ways of coping with the following realities:

(1) The sheer number of items that might be listed today in a 1976 bulletin is bewildering beyond belief. Kits and packages supposedly designed to iron out learning problems have proliferated. Often produced by do-it-yourself lay educators and psychologists, they have literally flooded the educational business market ("ed-biz").

(2) There has been an unprecedented increase not only in the variety of materials produced but also in the forms in which they are presented to the buying public.

(3) Producers and distributors tend, almost overnight, to be bought up by large corporations. Others spring up, flourish for a time, leave their mark and either move to new quarters or vanish.

(4) The years since 1967 have brought a greater emphasis on open schools, open classrooms, and a variety of other changes in school populations, educational facilities and programs.

(5) With increased public and government support, has come a welcome influx of nursery schools and kindergartens for four-and-five-year-olds, as well as educational programs for infants and their parents.

(6) More emphasis on developmental levels and less concern for age levels have led to multi-age grouping arrangements and attempts to provide individualized learning opportunities for children.

(7) Concern about the need to eliminate sex-role stereotyping in school activities is resulting in critical evaluation of many classroom practices and materials.

(8) Similarly, concern about violence in our society is resulting in a hard look at marketed materials that simulate violent activity. There is a felt need for work and play materials that encourage children (a) to respect property—both that of others and their own, (b) to respect all living things—including themselves.

(9) As producers and distributors have become more child-development oriented, they have employed educators, psychologists and artists to help in the preparation of their catalogs. Some of the commercial publications, complete with child-development data and colored illustrations, have sought to show how their products could best meet the developmental needs of children.

(10) In 1971 the ACEI Executive Board decided to increase the range of the Association's

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[*] *Editor's note:* It is not to be presumed that any single age developmental group would be supplied with *all* the items enumerated in a given list. Both items and quantities are to be thought of as guides rather than inventories.

interest in children and youth by adding to its area of concern two new developmental levels, infancy and early adolescence—extending the age range from 0 to 14 years. This action made it necessary for any future revisions of the bulletin to include a broader range of materials than heretofore.

These, then, are some of the significant factors that have influenced the format and content of the current publication. In reality, rather than a revision, it is a new bulletin offering background information, resources and guides to the selection of materials.

Two of the "realities" cited above call for further comment here—the concerns to *individualize* instruction and to eliminate *sex-role stereotyping.*

Current efforts to provide individualization have sometimes led to heavy reliance on pencil and paper fill-in type exercises. Educators must be aware of the very real danger that such programs may revert to repetitive drill devoid of understanding. These incomplete programs need to be supplemented liberally with a variety of concrete, manipulative materials if integrated experience with lead-on value for future learning is to be the result. John Dewey in the United States, Nathan and Susan Isaacs in England, and Jean Piaget in Switzerland, among others, have all insisted that children learn best through the associations they have gained through their own experiences, through what they have actually done themselves.

Awareness of sexism in educational practices and materials is another important consideration that must be paid heed by manufacturers who produce and advertise educational materials and teachers or parents who select and use them with children. Our cultural heritage has often led us to think of girls as submissive and retiring, liking dolls and homemaking activities, and of boys as aggressive and outgoing, preferring wheel toys and construction activities. Any tendency to exchange roles has been frowned upon with such labels as "tomboy" or "sissy." Fortunately the range of work-opportunities today is expanding significantly for both sexes, and life styles in our society are undergoing rapid change.

The materials to which children are exposed should reflect these changes by offering a wide range of alternatives and options. A first step might be to eliminate references to "women's work," "men's work," "girls' games," "boys' toys," etc., and to encourage both boys and girls to try whatever interests them without fear of censorship when a choice fails to conform to common stereotypes. We can provide all children with materials that show boys and girls enjoying many of the same activities and men and women enjoying similar kinds of work.

In short, those of us who guide children and youth throughout their formative years need to maintain attitudes of acceptance and keep options open for them until they choose to narrow the process in terms of their own interests, abilities and attitudes they have acquired along the way.

CHANGES IN THIS EDITION

Some of the specific changes to be noted are:

(1) Information on prices and publishers-distributors of items is omitted because we no longer find it possible to be sufficiently current and accurate with such details to be useful to consumers.

(2) Less specificity places more responsibility on school systems and school staffs to do their own evaluations. As an aid in this process, sample evaluation forms are included—for both single items and packaged materials. (See pages 28-29.)

(3) Significant articles by informed educators review trends and practices in the development of equipment and materials.

Roland Barth and *Kathryn Moe* look at materials-selection from the points of view of an elementary school principal and classroom teacher, respectively. They cite numerous illustrations showing why teachers are those best equipped to make wise choices in selecting materials, in pooling resources and in timing purchases so that materials can be available for spontaneous needs.

Donald Mitchell, presenting the perspective of a publisher and distributor, stresses the importance of clarifying goals as a first step to selecting materials that will help implement a chosen program.

Peter Madden offers the counsel of an experienced teacher-educator, with emphasis on ways teacher centers can help in materials procurement and development. He also provides a helpful annotated bibliography of resources for amplifying and extending the content of this bulletin.

Oralie McAfee asks two practical and important questions: What materials should be bought? Which can be made successfully by teachers, parents, children and others whose assistance can be solicited? She suggests ways home/school-made materials can be created to fit the needs and interests of a particular child or group of children and the teaching styles of the users.

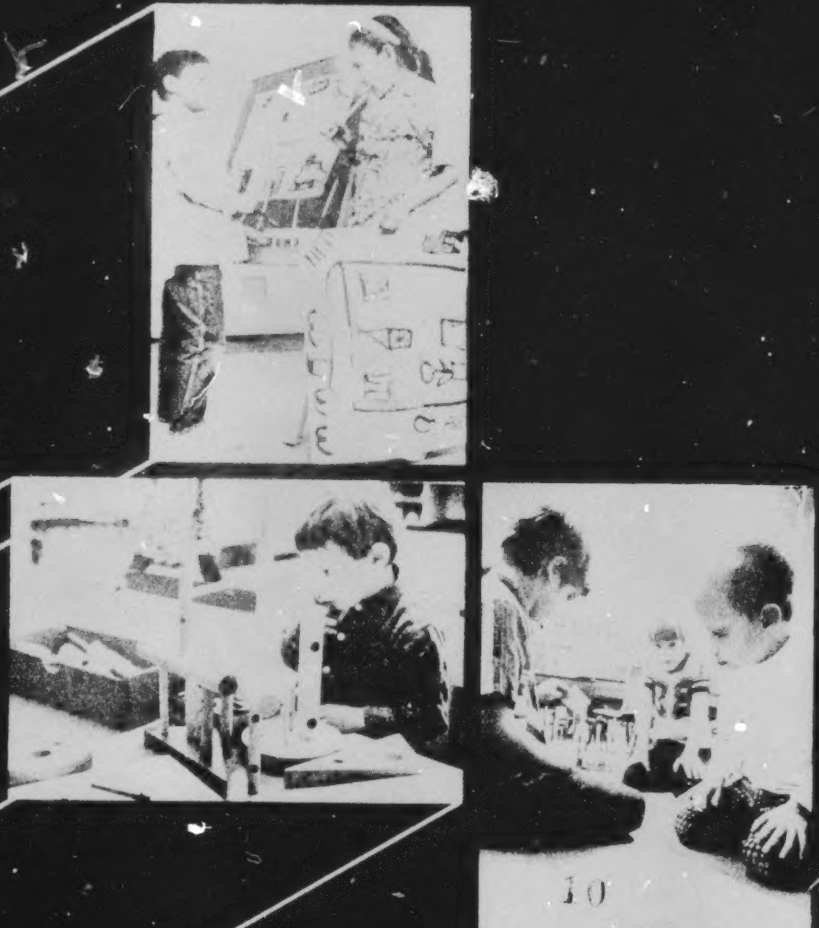
(4) Listings of materials include suggestions for two new developmental levels, infancy and early adolescence. Special emphasis is given to the need for flexibility in adjusting materials-choice to actual individuals and settings.

We now take pleasure in sharing with you the fruits of our long search for ways to best serve children by helping parents, teachers, administrators and others make appropriate choices from the host of commercial and scrounged equipment and materials currently available. On behalf of ACEI, we express heartfelt thanks to the many who have helped.

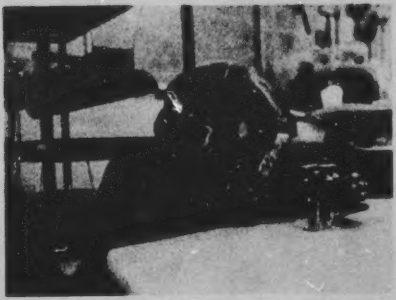
EDWINA DEANS
Bulletin Coordinator

Part 1

CRITERIA FOR SELECTION OF MATERIALS



Selecting Classroom Materials



Roland S. Barth and Kathryn A. Moe

Three questions are central to any discussion of classroom materials: who selects, what is selected, and on what basis are selections made?

The person who selects should be the classroom teacher. While this may be an obvious assertion it is by no means commonly reflected in public school practice. To the contrary, most decisions about classroom materials are made by state adoption committees, local school committees, central office coordinators of instruction or school principals. At a time when school budgets are shrinking and the cost of materials rising, the few dollars available for classroom materials must be spent where there is greatest payoff for children. Because teachers know the children in their classes better than anyone else, because teachers are familiar with the interests and needs of each student, they are in the unique position of being, not only the best, but the *only* adults in a school system who can effect an optimal match between children and materials. In addition to being in a position to make decisions about the most appropriate materials for children, teachers can do so with greater economy.

At Angier School in Newton, Massachusetts, we have redistributed the budget allocation for the school — about $40 per child per year—giving each teacher responsibility for a piece of the pie. This allocation, which comes to about $300 for each teacher (or $400 for teachers new to the school), does not cover general school supplies such as paper, crayons, paints and ditto paper; it does include all other materials such as books, manipulative materials, special art materials and field trips.

Money is power. It is also a powerful symbol. The messages this policy conveys are many: you are important, instrumental; you are trusted, valued and responsible adults; your observations of children's needs are reliable and central to good teaching and successful learning. We have not found a case of a teacher using anything but good judgment in five years. To the contrary teachers have responded to "fiscal autonomy" with thoughtfulness and frequently uncanny resourcefulness. Some teachers pool their resources, purchasing and sharing expensive sets of geo-blocks, for example. Field trips that cost about $40 by bus in the Boston area have given way to public transportation at 10 cents per child—with the attendant advantages of fostering independence and developing a first-hand acquaintance with the wider metropolitan area. Sharing has also stimulated a great deal of discussion among teachers about children, learning and instruction.

Because children have different needs and interests which vary from year to year, week to week and day to day, teachers must have flexibility in spending. Some children in a class may need extra manipulative experiences while others may need supplemental reading materials. During a study of Early America, one class discussed simple forms of navigation. As a result the teacher devised an orienteering course which required compasses. From her budget she was able to immediately purchase several compasses at a local store and thereby extend a fruitful area of children's inquiry.

Teachers also need flexibility in timing the introduction of new materials. Some materials will be ordered for the beginning of the school year. It is also essential to reserve funds to spend throughout the year as unanticipated needs and opportunities arise. If children in a class spontaneously develop an interest in railroads and the school and community libraries have little to offer in this field, the local bookstore will have the books to sustain this interest.

In providing materials for the classroom, a teacher also needs flexibility in the quantity of materials provided. Instead of investing in an expensive set of books, one for each child, a teacher can order enough for five or six students. While one group is working with magnets, another may be painting, another reading, and another using math materials. By choosing materials in this way, a teacher can provide options for children while at the same time using limited funds more effectively.

Given responsibility for spending money in these ways, a teacher *must* learn how to make inportant instructional decisions and budget resources wisely. These are skills central to good teaching that few teachers are called upon to develop and employ because someone else is responsible for deciding what materials to select. Thus, there is a direct and important relationship between teachers being able to select materials for the classroom and professional development.

Although a teacher cannot directly provide a child with learning, she can provide materials that will engage a child's curiosity and make learning more likely. Through experience with suitable materials, children reorganize and extend what they know about themselves and their world. Equipped with a budget and confronted with an overwhelming array of possible books, art materials, kits, math games, field trips and social studies units, how can a teacher make wise, helpful and economical choices?

Rather than offer suggestions concerning *what* materials to introduce into classrooms, let us consider five principles that can guide selections and lead towards an optimal match between child and materials.

Principle I: *Whenever possible, permit and encourage children to supply their own materials.*

One way to ensure that a classroom contains materials capable of eliciting interest is to encourage children to bring items of their own to school to explore as a legitimate part of their academic day. In this way children offer their teacher important clues for subsequent selection of materials and activities. For example, a packet of seeds brought in by a child having difficulties with arithmetic may lead to a planting, measuring, graphing project. A model dinosaur brought in by a child with reading problems might lead to a selection of reading materials. Children can also be encouraged to construct many of their own materials for use in the classroom . . . such as devices to measure length, weight or time.

Children have a keen knowledge of the neighborhood in which they live, knowledge that can be put to good advantage by a sensitive teacher. In a classroom where children were studying Colonial America, one child brought in a clipping from a newspaper describing early crafts and details on how to make apple-head dolls. The class was interested in pursuing this activity and when a group began to talk about buying apples, one child volunteered that his neighbor had an apple tree but never used the apples. After school the child and teacher went to see the neighbor and arranged for enough apples for the whole class.

When a child brings an object into the classroom it is important that it be displayed, shared, and used. Teachers can ensure this by providing a display area where children's treasures are shown with dignity. Time can be set aside each day when the items may be investigated. These interesting objects often serve as catalysts for new projects for individuals or groups of children.

Children can also be an excellent source of information about *people* as well as objects in the neighborhood. In one urban school a group of children loved and lived baseball. The stadium was in the neighborhood. When a class discussion came around to baseball, the children knew that the man who ran the little store across the street had been a member of the first professional team in the city. When the children contacted him, he agreed to come and talk about his career and even play baseball with the children at recess. Thus with children as a resource this fertile area was productively incorporated into the children's school program.

Principle II: *Whenever possible, permit and encourage children to explore the real world outside of the classroom and outside of the school.*

Once we recognize that the teacher is only one source of knowledge for children, the classroom is no longer the only place to learn. Learning takes place in all of the world to which a child has access. The countryside offers creatures of every kind, plants, streams; suburban and urban environments abound with distinctive learning opportunities. Each offers movement, change, pattern and excitement.

It is often possible and profitable for the teacher to release children from a five-hour-a-day schedule in the classroom to allow for explorations outside. A group of children in Oak Park, Illinois, was fascinated by the exterior of a particular house in their neighborhood. It seemed to have unusual nooks and crannies, roofs at different angles, several porches, all surrounded by a high wall, which whetted their appetites even more. They discovered that the house was Frank Lloyd Wright's first studio, built in 1889. This revelation prompted studies of how buildings are designed and built; building model homes; visits to architects, civil engineers, carpenters, plumbers and city planners. Children came to appreciate the complexities of their own houses and of those around them.

On another occasion a class was studying farming in the old days and how the sun was important to ripening, drying and preserving various crops. It was a natural step to wonder about the current and future uses of the sun's energy. This inquiry culminated in a visit to a solar energy research center at the Massachusetts Institute of Technology.

When everyone in a school and its neighborhood is regarded as a possible resource, when adults explore with children, all move together toward a much sought-after and seldom achieved goal: sense of community—a group of people working cooperatively toward common ends.

Principle III: *Seek out common, inexpensive, familiar, easily available materials.*

Expensive materials often better serve teachers' and parents' needs than children's. Too many educational "innovations" involve little more than moving from old books, desks, and building to new books, desks, and building, even though it is not clear that a new $12 textbook leads to more learning than an old $4 copy. Selections often lead to microscopes, filmstrip viewers, reference encyclopedias and complete sets of texts. This kind of expenditure is unfortunate, for these materials may be used by children only in school, usually under strict terms laid down by the teacher who fears being held responsible for their loss or damage. The effect is to localize and separate the child's in-school from out-of-school learning. If multibase blocks are "classroom" materials, it is unlikely that a child will carry home either the materials or the learning activities associated with them.

When the teachers control their own budget, they usually select more common, less expensive materials. Teachers must be resourceful. They have no choice but to make the most of what they have. Teachers and children alike become creative scroungers for all manner of things: old tires for swings, roots of trees for sculpture, Popsicle sticks for arithmetic.

An interest in animals, clay, sand, water, once initiated in school, can be easily pursued by children who find similar materials at home. If a child uses beans to count, approximate, and play games while in school, if he uses common kitchen equipment for his science experiments in school, he will have little difficulty continuing these activities at home. Common materials help integrate the two important worlds for children.

Children tend to respect and care for inexpensive, common materials, while they often abuse more expensive "school" equipment. Being instrumental in introducing materials into the classroom, both teacher and student have an investment in them and concern for their well-being and imaginative use. The empty cereal box, the pail of sand, or pieces of wood, rope or wire are seen by children, in some important sense, as their own, to be used as they please—to play store, add to, mix, cut, measure, drop, without constant concern and intervention from adults. In contrast to the constraint, dependence, and resentment often associated with more "valuable" school materials, children tend to respond to ordinary things with independence and imagination.

Each community has certain materials native to it, easily available to a resourceful teacher. Discovering and making use of the resources of a particular area is not only economical but highly meaningful for children. In one rural furniture manufacturing center, for example, teachers and children found not only the richness of the country life but also the scraps from the furniture industry. They were able to learn about making furniture, from cutting trees in the forest to marketing the completed chairs and tables.

In many areas, teacher centers have been set up to provide teachers with lists of materials available nearby. With the help of these centers teachers are able to identify and secure inexpensive, common instructional materials for children.

Principle IV: *Give preference to ambiguous materials that suggest a variety of possible paths of use.*

Another reason for selecting common, inexpensive materials over more expensive manufactured ones is that common materials tend to be more ambiguous and less directive, offering the child a greater part in determining their use. Materials designed to exclude all but one or two possible paths for a child to follow are limiting. They teach dependence upon the structure inherent in the materials (and upon the adult who constructs and supplies them) and leave little room for children to invent, improvise, modify and adapt. Revealing are such phrases as "the child will be led to" and "orderly stages," elaborate directions concerning "proper use," and suggestions on getting children back on the "right path" should their imaginations cause them to deviate from it. A child can assemble a plastic model in only one way; he can use a filmstrip viewer only with the filmstrips available. How much better for a child to be instrumental in posing for himself both the problem and the path he will take in pursuing that problem. Materials are to assist him in these choices, not direct or restrict him.

Structure is not incompatible with good materials for children—many common materials that have not been designed for any one purpose have structure and the capacity to influence and help organize children's thinking. Magnets, sand, wooden blocks are examples. They offer children a major part in determining their use, depending upon the questions they suggest. They encourage inventiveness. With a magnet, a child can pick up dropped pins, or he can study polarity or he can build a motor. With blocks a student can make balance-boards, houses, forts, highways or a checker game. With sand a child can model, construct, cast, measure, weigh, pour, draw, paint or even smooth wood.

Materials must be selected with sensitivity to the level of independence of each child. For Andy, who is still dependent upon adults to initiate and sustain his learning, structured activities such as playing a board game or viewing a filmstrip are appropriate. He might be at a loss with a sand table. Steve, a more self-reliant child, can successfully use more ambiguous materials such as clay, water or blocks. He is as free to determine their use as a potter, biologist or carpenter.

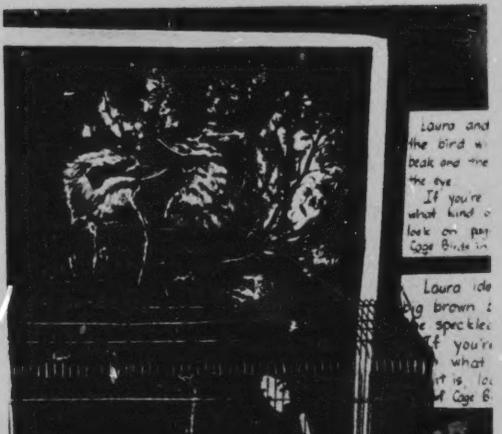
Children's needs and abilities, of course, change. As children have experiences with ambiguous materials they will discover new uses for them. A jar of dried beans can be used one day to study estimation, the next as counters in solving a math problem, as playing pieces in a game or as part of the decoration in a collage. As children explore with materials, they need to develop ways of expressing and sharing their observations. After walks in the woods, one group of children decided to record their observations in many different ways: sketching, painting, writing, photography, tape recording. From this experience, children learned to become more versatile in developing and employing different recording techniques.

People as well as materials can be more or less directive, rigid and prescribing. What a teacher permits children to do with materials influences thinking and behaving as much as the inherent properties of the materials. Thus the teacher must both select materials that are likely to provide starting points for children's exploration and then encourage each child to use the full range of possibilities in the material and in himself. Hopefully, in time, all can develop competence, resourcefulness and confidence when confronted with unstructured and ambiguous situations; i.e., with the real world.

Principle V: *Select materials that are likely to ensure active exploration.*

Implicit in the preceding discussion is the belief that learning is a consequence of active exploration in a rich, manipulative environment. Yet we cannot assume that all children will respond with fruitful explorations to a material-centered classroom established by the teacher. But selections need not be random. Although neither children coming to school in September, nor their new teachers, may have any idea where they "left off" the year before, although the teachers may have little idea of specific children's interests and capabilities, they can provide materials likely to invite questions and investigation. Last year's permanent-record card may reveal a Sally fascinated by fish, an important clue for providing books or materials for her. Because children's interests are often ephemeral, teachers will select materials on the basis of what they suspect children of a given age, sex and background will find exciting.

But teachers should not be surprised or disappointed to find children using materials in unanticipated ways. For example, yesterday three children made robots out of cardboard boxes, though the teacher guessed they would make a train. Today she can provide paint, tin cans and buttons for the children should they wish to embellish their robot. Robot books, robot models, robot pictures can also be introduced. Thus, after the first few days a teacher selects materials that will sustain and extend the interests children have revealed as well as continue to introduce new materials for which she suspects they may find a use. Supplying materials becomes less speculative if based more on careful observation of what children are saying and doing.



Once materials have been selected, it is important for teacher and child to organize and integrate them in a way that will lead to profitable exploration. Promising materials often go unused if not carefully stored and organized. It is even better to find ways of regularly using materials in various parts of the curriculum. One class brought a full-size covered wagon into the classroom for the year. This realia stimulated detailed discussions of the wheels, measurement of the wheels, how to build wheels and the many uses for wheels. With the tools used to make a wagon wheel, each child had the opportunity to carve a wooden spoon, starting from a newly cut log. The task entailed splitting the log, roughing out the blank with a hatchet and a gouge and smoothing the wood with sandpaper.

Like display, the storage of materials is crucial to running a materials-centered classroom. Early in the term a classroom might start out well organized and equipped, but unless a storage and retrieval system has been carefully worked out with children, the materials cannot be found when they are needed — and thus their usefulness is curtailed. A teacher can easily scrounge shoeboxes, fruit crates, pie crates and other storage facilities. A routine cleanup and return of materials at key intervals of each day also ensures that the next person who needs a material will be able to find it, complete and in place. Children who have a central part in storing, repairing and displaying materials are more likely to make full use of them.

In sum, the teacher selects materials that appear appropriate for a particular child with a particular interest at a particular time. Lesson plans, curriculum guides and literature on child development are of little help in making these fine discriminations. Only keen, firsthand observation can guide. Timing the introduction of materials is as important as the materials themselves. Thus, selection cannot be separated from observing and diagnosing children's behavior. To select and provide materials for the release of children's potential tomorrow, we must take advantage of what they are telling us today.

Equipping the Child-Care Center: Some Precautionary Notes

Donald Mitchell

Too often equipment selection for child-care centers is carried out in so haphazard a fashion that it becomes an unpleasant task for those involved and proves disastrous for program implementation. Discussed in this article are considerations and procedures that can make the selection-experience exciting and challenging for all concerned.

The primary issues to be considered are program goals, available space and budgetary constraints. Once these parameters have been established, specific equipment choices can be discussed in terms of children's needs, practicality and unique center-characteristics. Let us look at the effects of each of these concerns on equipment selection.

CLARIFYING GOALS

A discussion of program goals will help a center staff select those materials that are going to be most helpful to them in implementing their daily program. For example, if a staff decides that dramatic play activities will be a major focal point, they will want to choose materials that will enhance and encourage these activities, such as extra props in the doll corner and a wide selection of auxiliary toys in the block area. If equipment decisions are made in line with program goals, purchases are less likely to sit neglected in storage closets.

SPACE — INSIDE AND OUT

Once program goals are established, one needs to look at available space. Outside play-area space, available storage space and classroom floor space all should be considered.

If, for instance, a center is located in a site where the outside play area is extremely limited, or where poor weather conditions often prevail, to include large-muscle-activity equipment is important as part of the indoor planning. Lack of outdoor play area will also necessitate thinking carefully about inside space-use. Choosing equipment that can be moved easily and limiting the number of big pieces will create large spaces for more boisterous activities.

The amount of available classroom space is another extremely important consideration. As people who have worked with young children know, equipment choice and its arrangement can promote or obstruct the development of a positive center environment. Too much or poorly-spaced equipment in a small room can create "traffic jams" and interfere with children's actions. For example, using large blocks in a small, confined area does not allow children enough space in which to work comfortably. The accidental knocking over of an adjacent playmate's building can create unnecessary conflicts.

Large, undefined areas are also difficult for children to manage. Since many centers begin in church basements, school auditoriums or abandoned buildings, this matter of undefined space is often a serious center problem. Again, the choice of equipment can alleviate or aggravate the situation. Low-level shelving and tables strategically placed can create interest areas as well as define traffic patterns, thus making the space more manageable.

The amount of available storage space is another important factor in selecting appropriate equipment and materials. If a center is lacking in storage area, the staff needs to con-

Editor's Note: Although this article was ostensibly written for planners of pre-school centers for young children, we feel that the principles set forth are broadly applicable in selecting materials for a broad range of developmental levels.

sider the selection of multipurpose and stackable equipment. Some large blocks, for example, can be used for building or sitting. In some centers adequate storage space is available, but is located far from the major activity rooms. Special consideration then needs to be given to equipment that is easily transported, such as aluminum climbing frames rather than the traditional wooden ones.

BALANCE AND THE BUDGET

Budgetary constraints can certainly affect equipment choices but do not necessarily have to interfere with furnishing a center adequately. Any center usually has several staff members, parents or other interested people who can build needed equipment. Often, community civic groups, highschool shop classes and university architecture students can provide valuable assistance as well. Several books listed in the bibliography (see pp. 22-24) provide general diagrams and plans for building inside and outside play equipment. Staff members can also get ideas by visiting commercial showrooms, early-childhood conferences and other centers. By making some equipment, more money can then be made available for other needed materials.

Two cautionary notes must be mentioned when discussing equipment buying. It is generally unwise to purchase cheap but poorly made equipment that does not last. Tricycles are a case in point. Although the better-made tricycles are initially more expensive, they have a much better "track record" than do less expensive imitations. Also, better quality equipment will generally be safer. Pine unit-blocks, for instance, cost less than hardwood blocks but soon begin to splinter, making them dangerous for children to handle.

Secondly, it is prudent to save some equipment allocation for spending later in the year. Each group of children is unique; each new group will have different interests and needs. Too often, centers spend their equipment allowances before the center opens, leaving nothing for special purchases or for replacement of lost and broken materials.

CHILDREN'S NEEDS

Once program goals have been defined and the parameters of available space and budget funding established, staff members can consider specific equipment needs. Among additional guidelines, primary importance should be accorded consideration of children's needs. Although such concerns are implied in determining program goals, it is wise to remember that program goals can generally be interpreted in a variety of ways.

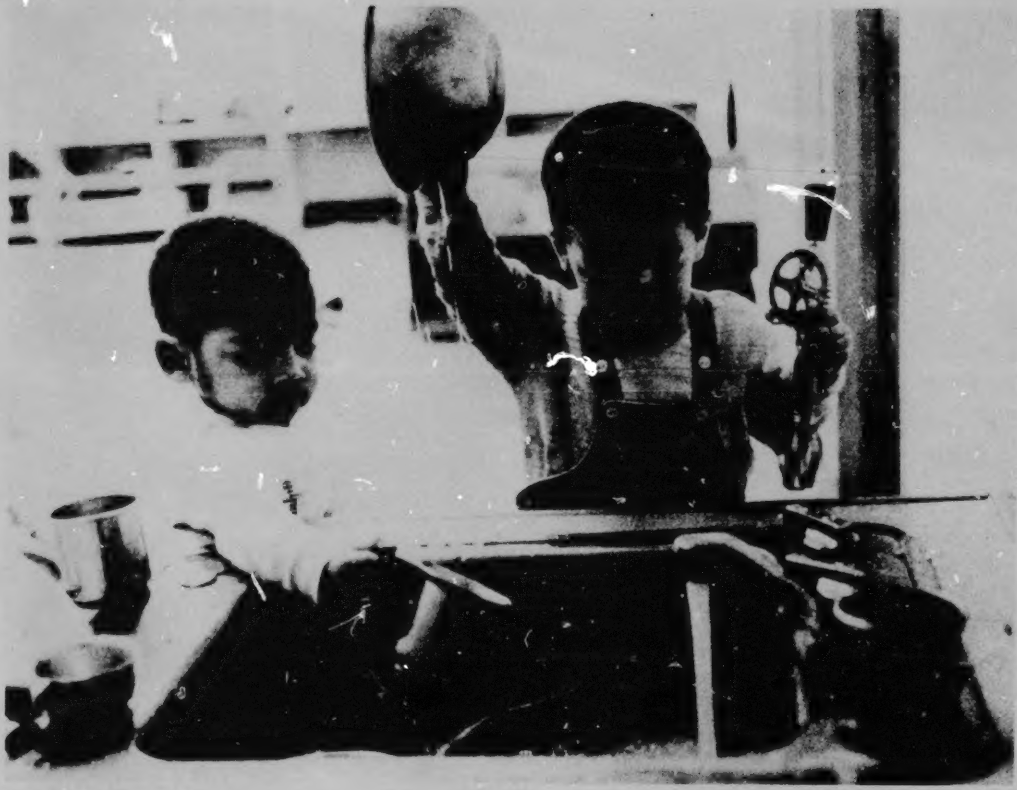
Perhaps the most critical question to ask when choosing equipment is, "Will it require physical or mental action by a child?" Children enjoy best and learn the most from equipment that requires their active participation. A second question to ask is, "Can it be used by the children for many purposes?" A wind-up, for example, can be used in only one way; as soon as the novelty wears off, the children will be bored with it. On the other hand, such versatile equipment as building blocks, water and sand tables, climbing frames and boards, props for sociodramatic play, and art materials can provide a central core of multi-use equipment that can be gradually increased. Although the answers to the following questions need not be "yes" for each acquisition, they may provide further guidelines for decision making. Does the equipment provide children with the opportunity to:

practice gross and fine motor skills?
engage in imaginative and symbolic play?
learn social skills by interacting with others?
increase their expressive skills in non-verbal as well as verbal ways?
challenge their intellectual capabilities?

Again, each individual piece of equipment obviously need not meet all these criteria, but what is important is that all the criteria be met. Another point to consider is that the various items of equipment balance one another, i.e. a piece of equipment that encourages extremely active play, such as a climber, should be countered with the availability of soft cushions for relaxing. Round or hexagonal tables, which encourage social interaction, need to be balanced with deep boxes or cubbies which can provide retreats.

STAFF NEEDS

One more area of concern frequently neglected when making equipment choices is that of staff needs. The finest equipment in the world will sit collecting dust in storage if staff members feel inconvenienced by it. Obviously good inservice



or preservice training can assist staff members in viewing equipment differently, but training is not the total answer. More preliminary attention to staff needs might also help alleviate unwelcome stress. For example, tabletops should be easy to clean and as nonstainable as possible. The necessary time it takes a staff person to scrub a porous surface is often time that could be spent with the children. Wall-to-wall carpeting may be very attractive but again often requires additional time to clean. In many centers so-called messy activities such as water play and fingerpainting are rarely provided because of staff fears of dirtying the rug. It may be better to think in terms of a tile floor with area rugs in certain sections. Each center staff will think of other restraints that specifically affect them.

PROVIDING FOR EXCEPTIONALITY

A final consideration to be discussed by staff members is the unique characteristics of the center. All centers should include material that reflects a wide variety of social and ethnic experiences. Certainly, any child's life will be enriched through such exposure. Additional planning may also be necessary to meet the requirements of children with special needs. Equipment and materials are still relatively sparse. Assistance can be obtained by contacting local special education agencies or the Bureau of Education for Handicapped Children in Washington, D.C.*

In summary, equipment selection for any center needs to be a shared responsibility. Though the planning process may take time, the benefits reaped from collaborative participation will profit both children and adults.

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*Bureau of Education for Handicapped Children, U.S. Office of Education, Department of Health, Education and Welfare, 7th and D Streets, S.W., Washington, D.C. 20202.

Equipping a Teacher Center

Peter Madden

Many school systems and even a number of individual schools are developing "teacher centers" or "resource rooms" as part of their staff-support and inservice-training programs. For schools about to embark on such a venture or planning to expand an existing facility, this chapter will offer some suggestions for selecting materials and utilizing them effectively. First, we will discuss the rationale behind the burgeoning teacher-center movement.

A BRIEF HISTORY

Teacher centers in America have several diverse roots. The term itself comes from Great Britain, where teachers' professional organizations have operated centers for many years as retreats away from the school system where teachers can gain strength, look at new curriculum materials and share ideas with other teachers. In the United States, the roots for teacher centers are found in local inservice programs that have developed workspaces as by-products of workshops in curriculum construction or similar topics.

In some parts of the country, such as Massachusetts or Colorado, teacher centers were offshoots of the extensive curriculum development projects in science and social studies that flourished in the 1960s. These centers operate independently of local schools and support themselves through publications, contracts with local school systems for inservice training or foundation funding.

Still another source of stimulation for the development of teacher centers is the university system. Several outstanding teacher centers are located in universities that are experimenting with new ways of serving the needs of professional teachers.

WHAT IS A TEACHER CENTER?

A teacher center is a room, a suite or a building located where teachers can easily reach it and open for business at hours when teachers can use it (usually after school and on Saturdays). It contains resources and reference materials on a variety of school-related or curriculum topics, tools, workspace, construction materials ranging from stencils to lumber, and samples of classroom materials which teachers might wish to examine and/or emulate. Most of all, it contains other teachers who are willing to help their colleagues with suggestions, ideas, constructive criticism and moral support.

A teacher center may operate solely on a drop-in basis, or it may offer a variety of workshops for its members. Most centers do, in fact, plan workshops, which range in complexity from a single session on a specific topic to weekend-long meetings to semester-long seminars. The workshops may be offered for formal credit through a local university, for inservice or certificate renewal credit through the local system, or solely for the satisfaction and professional growth of the participants.

Teacher centers are most commonly located in schools that have extra space and adequate parking available. Generally speaking, the areas assigned for teacher centers are not used for any other purpose during the day so that teachers' work "in progress" can be left undisturbed until completion.

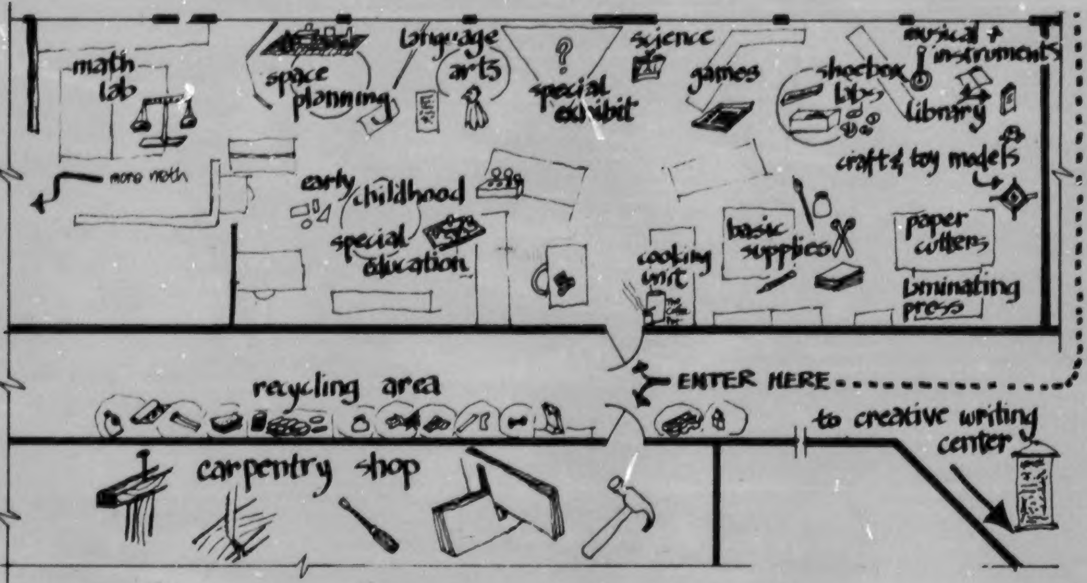
WHY DO TEACHER CENTERS EXIST?

Teacher centers exist to provide teachers with a source of fresh ideas, a place to construct classroom equipment and materials, and a setting for inservice training, based on *their* perception of their own needs. Regardless of location, initial stimulus or source of funding, the common thrust in nearly every teacher center is that *policy* is set by teachers, *programs* are planned and developed by teachers, the *needs* met by the center are the needs expressed by the teachers themselves. While everyone is welcome in a teacher center, no "rank" is allowed in most. Input from the least experienced teacher in the system carries just as much weight in planning and setting priorities as that of the superintendent of schools!

Teacher centers differ from instructional materials centers or resource collections in several ways. Generally teacher centers are not libraries or facilities where curriculum material may be checked out for classroom use. A common rule is "Whatever you take away, you must make for yourself." The centers usually have equipment and supplies available for construction of classroom materials on the spot.

Reference collections tend to contain relatively few examples of the standard textbook type of material at either the child's or the teacher's level on the grounds that the schools are already abundantly supplied with such resources. Rather, the collections focus on creative, innovative, activity-centered resources with which teachers can make plans and build material to supplement and enhance the standard printed curriculum material of the school.

Teacher centers also differ in significant ways from university postgraduate programs and facilities. Their main advantage for the teacher is the opportunity they offer for teachers to bring problems and needs to the center that can be attacked *immediately* without regard to course objectives, the needs of other students, or the professional background of a given group of university instructors. They are places to attempt to solve some of *today's* problems in time for *tomorrow's* class. Teacher centers are places where teachers can learn exactly what they wish to learn rather than what someone else wishes to teach.


math lab
more math
space planning
language arts
?
special exhibit
science
games
shoebox labs
musical + instruments
library
crafts & toy models
early childhood
special education
cooking unit
basic supplies
paper cutters
laminating press
recycling area
ENTER HERE
to creative writing center
carpentry shop

Floor Plan of the Philadelphia Teacher-Parent Center
The center consists of one double classroom which serves as a resource room and instructional area; a smaller classroom which is used for carpentry; a hallway which contains supplies and storage space; and another hallway which displays creative writing ideas.

WHO RUNS TEACHER CENTERS?

Regardless of the course of financial support, it is important that teachers themselves have the major responsibility for governance of a teacher center. Most centers have a policy-making or advisory board of teachers and administrators who provide the major sense of direction for the center's thrust.

Although many centers start out with a collective leadership through a committee of interested teachers, most soon appoint one person to be general director of the project. This individual needs to be a creative and dynamic teacher with a strong sense of personal worth. Many observers of the teacher-center movement have noted how long it takes for teachers to begin to see themselves as experts with a significant contribution of their own to make to fellow professionals. Undoubtedly this feeling stems from the endless series of administrators, curriculum directors, professors, consultants and social critics who think they know just what teachers are doing wrong and how they must change their ways!

Conversely, a teacher center will reach maximum effectiveness when teachers begin to use it as a place to share ideas and tackle the common problems they face together. The critical role of the director is to act as a model of the exploring, self-critical, resourceful teacher who can find unique solutions to classroom problems and follow up with creation of materials to put those solutions to work.

WHAT EQUIPMENT AND SUPPLIES ARE NEEDED TO BEGIN?

A teacher center can be as small as a single classroom or as large as a wing of an underused school. The investment in equipment and supplies can also range extensively. An effective center can be constructed with about $2500 worth of materials or can go much higher as it expands and finds new sources of financial support. The diagram shows how one very successful operation, the Philadelphia Teacher-Parent Center, has developed its resources in one very large classroom, one average-sized classroom and a connecting hall.

The basic space units found in most teacher centers are: (1) a woodworking area; (2) a paper-working area; (3) a painting area; (4) a reference library; (5) a meeting area (with coffeepot); (6) demonstration centers for language arts, math, science, social studies, humanities and other curriculum topics; and (7) storage space. All of these can be arranged in one average-sized classroom, although the room will tend to become rather crowded, noisy and smelly (from paint and glue!) at times. If the carpentry, painting and storage facilities can be in a separate room, life will be simpler for everyone concerned.

The first list contains basic equipment that a teacher center would generally obtain in its initial stage of development:

6 Tables
4 Bookcases
3 Steel shelves or cabinets, 36" × 18"
1 Sheet of ¼" pegboard for hanging tools, 4' × 8'
3 Workbenches
1 Drill press (or ¼" power drill with a bench-top stand)
1 Bandsaw, 12" or larger, with both a sawing blade and a sanding belt
1 Electric saber saw
1 Riveting tool
1 Hot-glue gun
1 Set of Tri-wall cutting tools (See note #1.)
1 Wire stripper/cutter
5 Utility knives
3 Hammers
3 Sets of assorted flat and Phillips-head screwdrivers
1 Set of open-end and box wrenches
3 Pliers
1 Vise-grip pliers
8 Screw clamps
8 Corner clamps
10 Paintbrushes, assorted, ranging from 3" to ¼"
3 Metal rulers with rubber backing, 36"
3 Metal rulers with rubber backing, 18"
5 Heavy-duty scissors
1 Large 30" paper cutter
1 Medium 12" paper cutter
1 Dry mount press/laminator with associated weights and equipment
1 Transparency copying machine
5 Classroom cameras
1 Kit of photographic developing materials—no darkroom needed (See note #2.)
1 Cassette tape recorder
1 Electric toaster-oven
1 Electric frying pan

10 Small cardboard barrels (See note #4.)
8 Plastic 1- or 2-gal. buckets

The second list contains basic supplies needed to accompany the equipment listed. Quantities are not indicated since there is no way of predicting typical consumption in any particular teacher center except through experience.

Tri-wall (See note #1.)
Lumber: 1" × 2" clear pine or fir; 1" × 1" clear pine or fir; 5/8" particle board sheet
Sandpaper
Utility knife blades
Razor blades
Finishing nails in 1", 1½", 2", 2½" sizes
Wood screws (#8) in 1" and 2" sizes
Hot glue
White glue in 1-gal. containers
Spray sealer
Latex enamel, assorted colors, in 1-qt. cans (See note #3.)
Masking tape, 2"
Scotch tape
Rubber bands
Magic markers, assorted colors and tip thicknesses
Poster paper, assorted colors
Construction paper, assorted colors
Oaktag paper
Graph paper
Cards, assorted colors, 3" × 5" and 4" × 6"
Acetate sheets
Dry mount paper and plastic laminate
Projection transparency sheets and cardboard borders
Tape-recording cassettes

Notes

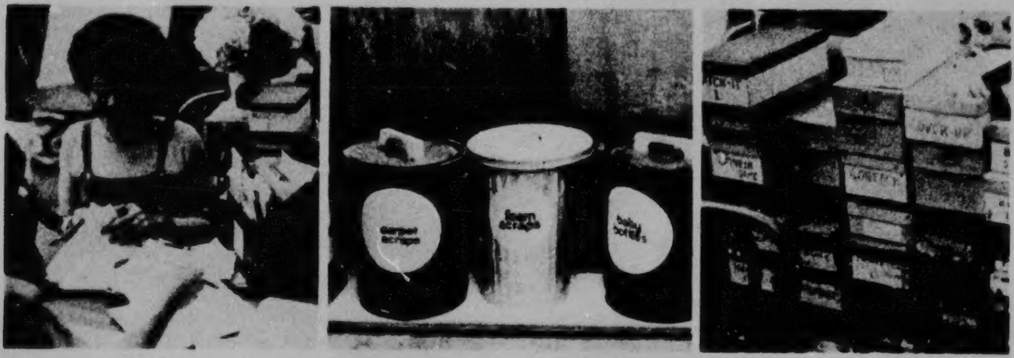
1. Tri-wall is an all-purpose three-layered cardboard of amazing strength and versatility. It is often used for constructing major pieces of classroom furniture such as bookcases, tables, theaters, chairs, etc. Tri-wall can best be ordered in 42" × 54" sheets from a building-materials supplier, or from Tri-wall Containers, 100 Crossways Park, Woodbury, NY 11797 (1975 price was about $185 per hundred sheets, freight prepaid).

A set of tools for working with Tri-wall and a plan book *Cardboard Carpentry* are available from The Workshop for Learning Things, 5 Bridge Street, Watertown, MA 02172.

2. Classroom photographic equipment including inexpensive cameras ($2.50, 1975 price), a black bag for loading film (which replaces the need for a darkroom), developing equipment, chemicals, several varieties of printing paper and a simple instruction book are all available from SEE, Selective Educational Equipment, 3 Bridge Street, Newton, MA 02195.

3. Selection of paint should be made with care. Spray cans of enamel, often initially tempting, are generally unsatisfactory for teacher-center use because they cost too much per unit of paint and are far too messy for the close, interior quarters of a teacher center. Tempera paints are easy to apply and clean up but are difficult to handle later, as they rub off. Oil-base paints may put the center afoul of the fire marshal and are hard to clean up after use. The best solution seems to be latex enamels which are durable, available in many bright colors, easy to clean up and present no fire hazard. Any major company now handles a good selection of latex enamel paint.

4. Cardboard barrels can be scrounged from industrial sources and should be used in a teacher center to store other useful materials that have been scrounged locally. Among items that might be obtained are cardboard scraps, assorted styrofoam packing materials, tinfoil tape and sheets, coffee cans, juice cans, baby-food jars, plastic trimmings, linoleum and carpet samples, egg cartons, plastic bottles, etc. A number of useful lists of scroungeable materials are available in the unit entitled "The Use of Concrete Materials" in *The Open Classroom Reader* (Charles E. Silberman, ed., New York: Random House, 1973).



A Starter Bibliography for a Teacher Center Reference Shelf on Selection of Activities and Materials

Peter Madden

Ascheim, Skip, ed. *Materials for the Open Classroom*. New York: Dell, 1973. An oversized paperback (a la Big Rock Candy Mountain) with some provocative essays and lots of offbeat suggestions for games and other teaching-learning resources.

Butler, Annie L. *Early Childhood Education—Planning and Administering Programs*. New York: D. Van Nostrand, 1974. This book is designed as a guide for those interested or involved in organizing a nursery school, or directing a day care center, or kindergarten. The appendices include an equipment list and samples of records.

Camp, Janet, ed. *DARCEE Resource Unit Manuals*. Nashville: Demonstration and Research Center for Early Education, George Peabody College. This steadily expanding series now offers eleven modestly priced and excellently planned units for young children on such topics as plants, animals, seasons, family life, self-understanding etc. The units use an information-processing model to build basic skills, making heavy use of materials and classroom activities.

Cattaneo, E.R., ed. *Educator's Purchasing Guide*. 6th ed. Philadelphia: North American Publishing Co. This 1400-page catalog is a comprehensive and easy-to-use reference guide to publishers, producers and manufacturers of educational materials and supplies. It shows what is available where.

Charbonneau, Manon. *Learning To Think in a Math Lab*. Boston: National Association of Independent Schools, 1971. An outstanding introduction to practical activities teachers can develop for themselves. Directed at grades 4 through 7 but many of the activities are appropriate for older or younger children.

Croft, Doreen, and Robert Hess. *An Activities Handbook for Teachers of Young Children*. Boston: Houghton-Mifflin, 1972. The activities described here center around the 5-7 year-old level and are clustered in sections on language, science, arts, math and cooking. Particularly helpful is the compilation of activities according to the cognitive skills they enhance, such as "visual perception," "verbalizing," etc.

Day, Barbara. *Open Learning in Early Childhood*. New York: Macmillan, 1975. Ms. Day offers excellent suggestions on planning rooms, teaching materials and the curriculum around an open-classroom model. She examines every area of the curriculum and provides concrete ideas for developing activity-centered experiences for children.

Dean, Joan. *Room To Learn*. New York: Citation, 1974. A myriad of practical ideas from a British educator on effective, inviting and economical ways to organize challenging elementary classroom environments. Includes specific suggestions for creating learning centers, even in overcrowded settings.

De Roche, Edward, and Erika Gierl. *Creative Units for the Elementary School Teacher*. West Nyack, NY: Parker Publishing Co., 1969. This handy book provides a variety of ways for using newspapers, magazines, reference books, road maps and other imaginative "real-life" materials to create exciting learning experiences.

Education Development Center. *Materials: A Useful List of Classroom Items To Be Scrounged or Purchased*. Newton, MA: The Center (55 Chapel St. 02160). Tells where to go for discarded materials; lists free and inexpensive materials and supplies to be purchased.

Educational Service, Inc. *The SPICE Series*. Stevensville, MI: The Service (Box 219, 49127). This series remains the "grand-daddy" of the activities handbooks for teachers. Books include SPICE (primary language arts), PROBE (science), PLUS (mathematics), SPARK (social studies), CREATE (art), ACTION (physical activities), STAGE (dramatics), RESCUE (remedial reading), ANCHOR (intermediate language arts), PRIDE (black studies), LAUNCH (early learning) and FLAIR (creative writing).

Gilstrap, Robert, and William Martin. *Current Strategies for Teachers—A Resource for Personalizing Instruction*. Pacific Palisades, CA: Goodyear, 1975. Virtually every approach to teaching from worksheets to simulations is presented with fresh ideas for personalizing or individualizing classroom instruction. A good basic source of assistance for teachers who want to change in small steps from a more rigid teacher-centered approach to techniques that focus more on the child as an independent learner.

Godfrey, Lorraine. *Individualize with Learning Station Themes*. Menlo Park, CA: Individualized Books, 1974. The special feature of Godfrey's book is her emphasis on *long-term* use of learning centers where children can return day after day to continue working in depth on a sustained theme. Particularly useful for teachers who have already initiated learning centers and are looking for ways to maintain a high level of student involvement.

Green, Mary, and Bonnie Rubenstein. *Will the Real Teacher Please Stand Up?* Pacific Palisades, CA: Goodyear, 1972. A series of useful and involving activities for elementary children are charmingly presented in this book, which also presents some teacher-to-teacher discussion of ways to make classrooms nicer places for living creatures to learn.

Haley, Frances, ed. *Profiles of Promise.* Boulder, CO: Social Sciences Education Consortium (855 Broadway 80302), 1973-75. Each profile presents a description of a successful social studies activity or program that SSEC considers worthy of imitation. The packets are an excellent resource for teachers trying to innovate in the social studies area.

Herr, Selma. *Learning Activities for Reading.* Dubuque, IA: William C. Brown, 1970. 170 pages of games, learning aids, bulletin-board materials and other activities to enrich a language arts program.

Howes, Virgil, ed. *The Individualizing Instruction Series.* New York: Macmillan. This series of paperbacks discusses many current methodologies for providing individualized instruction from learning centers to computer-assisted instruction. Some articles are theoretical but many offer specific suggestions for classroom teachers at all grade levels. Titles include *Individualization of Instruction: A Teaching Strategy; Individualizing Instruction in Reading and Social Studies;* and *Individualizing Instruction in Science and Mathematics.*

Kaplan, Sandra; Jo Ann Kaplan; Sheila Madsen; and Bette Tayler. *Change for Children: Ideas and Activities for Individualized Learning.* Pacific Palisades, CA: Goodyear, 1973. The authors offer an excellent collection of ideas for creation of learning centers, including many specific ideas for centers in all major curriculum areas as well as suggestions for record-keeping, time/space management and evaluation.

Kaplan, Sandra; Jo Ann Kaplan; Sheila Madsen; and Bette Gould. *A Young Child Experiences—Activities for Teaching and Learning.* Pacific Palisades, CA: Goodyear, 1975. Plans for all sorts of activity-centered experiences are presented here, including task cards, learning centers, games and projects. Some can be duplicated; others must be constructed.

Kelley, S. Jeanne, and Nancy L. Anderson. *Learning Mathematics Through Activities.* Cupertino, CA: James Freel and Associates, 1973. Kelley, an experienced teacher of mathematics in elementary schools, focuses in depth on manipulative materials for mathematics instruction. Plans for making dozens of materials are presented, along with detailed descriptions of the classroom activities in which the materials can be used. In addition there is an excellent list of commercial products for mathematics instruction with complete purchasing information.

Lassiter, Frank. "Equipping the Open Plan School, Equipping for Open Education." 1972. 13 pp. ED 073 539. "Solutions to specific problems in the areas of seating, work surfaces, and storage and display. Some suggestions are also provided for (1) mobile partitions (to define space), (2) storage (mobile), (3) seating, (4) work surfaces, (5) teacher stations, and (6) play." N.B. This listing and the one that follows are from *Open Education: An Abstract Bibliography* (Supplement #1), compiled by Norma K. Howard, available from the Publications Office/ERIC, College of Education/University of Illinois, 805 W. Pennsylvania Ave., Urbana, IL 61801. They may be ordered, using the ED numbers, from the Computer Microfilm International Corp., Box 190, Arlington, VA 22210.

__________. "Equipment and Furniture. Guidelines for Open-Place Middle and High Schools." 1972. 11 p. ED 073 538. "Movable equipment needs are subdivided into work surfaces, seating, storage, display and chalkboard (tack board), and movable partitions (area screen)."

Leeper, Sarah Hammond; Ruth J. Dales; Dora Sikes Skipper; and Ralph L. Witherspoon. *Good Schools for Young Children.* 3rd. ed. New York: Macmillan, 1974. The detailed material in this book is designed especially for the inexperienced teacher and undergraduate student. Many others also find this guide a valuable resource.

Lorton, Mary B. *Workjobs: Activity-Centered Learning for Early Childhood Education.* Menlo Park, CA: Addison-Wesley, 1972. This book offers plans for constructing activities and units in language development and mathematics for young children. Also includes a chapter of implementation strategies for activity-centered teaching.

Mager, Robert. *Developing Attitudes Toward Learning.* Belmont, CA: Fearon, 1968. An excellent introduction to objectives and their implementation in teacher-designed learning modules and packets.

Monahan, Robert. *Free and Inexpensive Materials for Preschool and Early Childhood.* Belmont, CA: Fearon, 1973. Classifies materials into broad subject areas (art, exceptional children, parent education, etc.). Includes ordering information, with prices and publishers' addresses.

Moore, Norman R., ed. *Free and Inexpensive Learning Materials.* 17th biennial ed. Nashville: George Peabody College for Teachers, 1974. This edition contains titles of more than 2,800 instructional aids. The educational value of all entries was evaluated by the staff of the Division of Surveys and Field Services at George Peabody College.

Musgrave, G. Roy. *Individualized Instruction: Teaching Strategies Focused on the Learner.* Boston: Allyn & Bacon, 1975. A "theory into practice" book, this small volume provides commonsense guidelines for developing a wide variety of individualized techniques. Appropriate for many grade levels and content areas.

Nelson, Leslie, and George Lorbeer. *Science Activities for Elementary Children.* Dubuque, IA: William C. Brown, 1970. A basic collection of science activities covering the entire scope of grades and content areas for elementary school science.

Pavlich, Vita, and Eleanor Rosenast. *Survival Kit for Substitutes—Activities That Work in Elementary Classrooms.* New York: Citation, 1974. The authors raise substitute teaching to new heights with this collection of well-thought-out activities which can be completed within one period. Regular teachers are stealing their tricks once they get their hands on this book.

Roth, Barbara. *Classroom Cookery*. South El Monte, CA: Creative Teaching Press (1900 Tyler Ave. 91733). Roth offers one of the more complete books on the market for incorporating cooking activities into various parts of the curriculum of the elementary schools.

Rubin, Joseph. *Reading and Language Development, a Teacher Resource Book*. Vol. II. Portland, OR: Northwest Regional Educational Laboratory (710 S.W. 2nd Ave. 97204). An activities book slanted toward the needs of culturally or linguistically deprived students.

Russell, Helen Ross. *Ten Minute Field Trips: Using the School Grounds for Environmental Studies*. Garden City, NY: J.G. Ferguson, Co. (Doubleday), 1973. Environmental studies do not have to take place at beaches, parks, or secluded "nature areas." Russell provides guidelines for hundreds of outdoor studies to be conducted right at or around your school, even an asphalt playground!

Salisbury, Gordon, ed. *Catalog of Free Teaching Materials*. Ventura, CA: The Editor (Box 1075, 93001). Updated every few years, this catalog is a comprehensive list of free materials available to teachers, ranging from "Facts and Theories about 'Old Faithful' " from the National Park Service to "Fluoridation Facts" from the American Dental Association.

Silberman, Charles E., ed. *The Open Classroom Reader*. New York: Random, 1973, (paper). Whether or not a school is moving toward the open classroom concept of instruction, this book is a "best buy." For a modest price, it offers several hundred pages of very specific help on curriculum development, use of space and materials, evaluation and similar crucial, practical concerns.

Stadsklev, Ron. *Handbook of Simulation Gaming in Social Education*. Tuscaloosa, AL: Institute of Higher Education Research. University of Alabama, 1974. A basic introduction to the use of simulations and learning games at all grade levels. Although the major focus is on social studies, the techniques can be useful in other subject areas as well.

UNESCO. *700 Science Experiments for Everyone*. Garden City, NY: Doubleday, 1958. This invaluable book was developed by UNESCO for teachers in devastated nations. All of the activities can be constructed by teachers using cast-off or junk materials.

Van Der Ryn, Sim, et al. *Farallones Scrapbook*. New York: Random, 1971. A large exciting book with a "counter-culture" tinge which explores construction and room arrangement ideas as well as a philosophic argument for a very open form of education.

Voight, Ralph. *Invitation to Learning: The Learning Center Handbook*. Washington, DC: Acropolis, 1971. General information on the concept of learning centers, operational techniques, use of contract learning, conferences and planning with children. A very useful jumping-off point for teachers who want to use learning centers in their classrooms.

Waynant, Louise, and Robert Wilson. *Learning Centers — A Guide for Effective Use*. Paoli, PA: Instructo, 1974. A good introduction to the development and management of learning centers. While the book focuses largely on general concepts, it also provides many specific ideas and a good bibliography.

Whitehead, Robert. *Children's Literature: Strategies of Teaching*. Englewood Cliffs, NJ: Prentice-Hall, 1968. A guide to hundreds of activities that can be developed by teachers to develop learning through the use of children's literature.

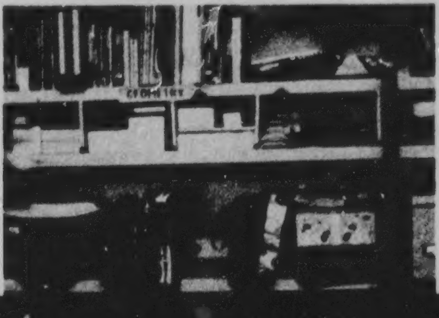
Wurman, Richard S., ed. *The Yellow Pages of Learning Resources*. Cambridge, MA: MIT Press (also distributed by the National Association of Elementary School Principals, 1801 N. Moore St., Arlington, VA. 22209), 1972. A one-of-its-kind publication, this inexpensive volume is crammed with ideas for bringing people into schools and taking children out into the community. It has ideas for field trips that most people would never dream of and provides some interesting guides for making the best use of classroom visitors.

Wylie, Jeanne, ed. *A Creative Guide for Preschool Teachers*. Racine, WI: Western Publishing Educational Service (1220 Mound Ave. 53404), 1965. Uses a notebook format that allows individual sections of the book to be removed for use in planning lessons. All curriculum areas are included, as are chapters dealing with confidence, self-concept and relationships with parents.

Yanes, Samuel, and Cia Holdorf, eds. *Big Rock Candy Mountain—Resources for Our Education*. New York: Dell, 1972. This is a large, free-flowing collection of ideas for rejuvenating the physical facilities of a classroom and introducing less structured teaching techniques. A useful collection of references and reviews of "free school" oriented literature is also included.

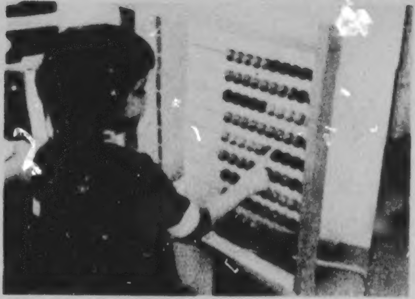
Zuckerman, David, and Robert Horn. *The Guide To Simulation Games for Education and Training*. Lexington, MA: Information Resources, 1970. Classroom oriented simulation games currently on the market are almost all listed in this comprehensive index.

Editor's Note: For a number of pertinent publications by the Association for Childhood Education International to add to this "Starter List," see page 104.



To Make or Buy?

Oralie McAfee



In a time of shrinking budgets and rising costs, answering the question of whether to buy or make needed instructional equipment and supplies is especially difficult. Neither purchased nor homemade material is inherently superior, and few generalizations can be made from item to item. Each case must be evaluated and decided about individually. In making those decisions, some of the factors to be kept in mind are fairly tangible and straightforward, such as durability, safety and comparative cost. Other considerations are less tangible but no less important—such as the satisfaction that parents and teachers gain in creating something for children, and the possibility that homemade materials will more adequately reflect local culture and environment.

In weighing the relative merit of purchasing or making a specific item, consider these things:

COST

What will be the comparative cost of the two end-products? Remember to include in your computations an allowance for the projected life of the materials, the number of children who will be using them, and your time, as well as the initial cash outlay.

DURABILITY

Will the item be more durable if I make it or if I buy it? Items made of flimsy material seem to invite destruction and should be avoided, whether store-bought or homemade. Many materials using oaktag or cardboard last such a short time they are hardly worth the time a teacher puts into making them. On the other hand, teacher- or parent-made flannelboard-story figures may remain in perfect condition long after the loss of arms, legs, tails, chimneys and other appendages have made commercial sets useless. Just sew together two layers of the cutout felt figures, draw on distinguishing characteristics with a felt pen, and you have constructed a set that will last indefinitely. Proper protection will extend the life of paper or tagboard materials—try laminating or covering them with clear contact paper. The new finishes now available for wood will protect your investment in any wooden items.

SAFETY

Each item must also be given separate consideration to see whether or not it is safe. Pine blocks develop splinters whether they are purchased or made at home. Regardless of how much was paid or how lovingly the donated piece was made, improperly made outdoor equipment can be dangerous![1]

SUITABILITY TO CHILD'S AGE AND ABILITY

As misleading as the "suitable for children from three to eight" or "one to six" labels are, they are probably as accurate as many adult estimates of the appropriateness of material, especially for young children. Perhaps because of the difficulty and expense of working with wood, metal and plastic, much teacher-made materials tend toward fabric, paper, cardboard, pictures, letters and numbers—often too abstract and symbolic for young children. On the other hand, many "just right" items are quickly and easily made, often from scraps. Some examples are yarn balls, sound cans, carpet-sample swatches for sorting and arranging, a board with many different hardware closing-devices, or fabric attached to boards with various kinds of slide fasteners, buttons, metal grips, snaps, hooks and eyes, ties, Velcro and so forth. Clever adults can make these items to match more closely the capabilities and interests of their children than any boards that might be purchased.

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[1] For many useful safety-suggestions with reference to children's play and educational materials, write to the U.S. Consumer Product Safety Commission, 540 Westbard Ave., Washington, DC 20207.

SUITABILITY TO THE CHILD'S CULTURE AND ENVIRONMENT

Mass-produced items are deliberately designed to appeal to the broadest possible market. For example, at times specialized ethnic and regional products—especially books—may be too neutral or too far removed from the child's experience to have meaning. Some of this material may present—ever so subtly—undesirable concepts and attitudes. To get more authentic material, save pictures from local, regional or ethnic magazines rather than purchase them in kits. Better yet, take your own local pictures and have posters made. One or two posters a year would quickly build into a substantial "our community" file. Construct a lotto game on a local theme—"Buildings in Our Neighborhood," or "People in Our School," or a fair, rodeo or other local celebration. Make a book or help the children make a book on any local theme. Parent-made stuffed cloth dolls can have varied colors and types of hair, skin, eyes and other characteristics. They can be dressed in modern or traditional dress, which parents can also make and authenticate. Slide-sets for instructional purposes can be made on any theme a teacher wishes.

INTANGIBLE VALUES

Does the making (or purchase) of the item have other important values that must be considered? Recycled, improvised materials may be "beautiful junk" to an ecology-minded, middle-class teacher. They may be "*just* junk"—and rejected—by a pupil and family who have never had anything else. Material goods have different symbolic meanings to different people. Other intangible values that must be considered are the investment and involvement that making an item requires—of teacher, parent, child or community group. A book you have made yourself is more than just a book. Industrial by-products—spools, mill-ends, cardboard tubing and sign plastic—that a parent collects from work contribute far more than the value of the products themselves. Items that reflect the cultural and environmental diversity of different peoples and locales teach lessons over and above the particular instructional concern of the moment.

CREATIVITY AND IMAGINATION

Will the material, either purchased or made, help foster children's creativity and imagination? We are inclined to provide too much in too realistic a form, for many children. Often all they need are mere suggestions of the essential elements of real life. A few materials to improvise with, a suggestion or two, and today's children can create their own learning materials, their own toys, as readily as yesterday's. New in your community? Or too young to remember? Ask parents and grandparents what they played with when they were growing up. You may get some ideas to use in the classroom or center, or to suggest to other parents.

I asked some parents in the southwestern part of the United States what they played with when they were young, and taped their remembrances. Notice the number of unstructured, natural or recycled products. In our urban society, some of the raw materials may need to be provided by adults, but the joy and pleasure for children will be just as great.

Some of the ideas that could be adapted to a center are given below.

WHEN OUTDOOR EQUIPMENT WAS SCARCE

"We used an old worn-down broom as a horse in our cowboy games."

"We tied old tires by rope to a tree branch and used them as swings."

"We filled a burlap 'gunny' or 'croaker' sack part way with sand, looped the top over in a knot, and then tied a rope to it and to a tree branch."

"We would make-believe a bale or two of hay was a house or fort."

"For building blocks, we used old bricks we found around the yard to outline an outdoor playhouse, barn, barnlot, store or other structure. When we didn't have bricks, we used rocks and stones. Sometimes we used wood that had been cut for firewood."

"Mud was used to build outside ovens in which we would pretend to bake bread."

"We used a clean oil-drum to 'log roll' on, yell in, hide in, tummy-roll on and jump from."

USING NATURAL, UNSTRUCTURED, READILY AVAILABLE MATERIAL

"On the Navajo reservation when I was little I tended my grandfather's sheep. I would search out areas where I could find soft clay. I would shape figures of men and women and sheep with the clay. I would find sand and press it in my hand and shape it into a small hogan. I pushed my finger into the side to make a door and stuck a small twig in the top to make a chimney. The clay figures of the sheep went in a small twig corral near the hogan, and the people would fit into the hogan."

"There were many different colors of sandstone near our home. I spent hours pulverizing the sand and layering it in soft colors in an old canning jar."

"We made corncob dolls. The ear of corn was the doll, the silk was the hair, and the leaves were draped around the corn as clothes."

"We would fill the small milk-cartons our older brothers and sisters brought home from school with mud mixed with dried straw to make adobe brick. We built dollhouses with roofs of small tree twigs or branches."

"We played a lot with mud and water, constructing roads, ditches, rivers and canals."

"We molded mud-pies in empty flat cans."[2]

In sum, the question of whether to make or buy cannot be quickly or glibly answered. Children need both homemade and bought materials, and only *you* can decide which kind is best for which kind of learning and when.

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[2] Examples collected by Ruth Spar and Oralie McAfee.

Criteria for Selection of Single Items of Equipment and Materials

Equipment and Supplies Committees (1967-1973)

Functional Requirements

Does the material possess the following features?

*Safety**

- non-toxic and easily cleaned
- designed to avoid injury from sharp edges, protruding parts, tipping, splinters, electrical, mechanical and thermal hazards
- flame resistant

Durability

- strong enough to withstand heavy usage
- resistant to weathering
- easy to care for and store

Adaptability

- appropriate in size and form for intended ages
- usable in more than one way
- nonsexist

Accountability

- reasonably priced
- appealing on a long-term basis

Educational Requirements

Does the material contribute to growth in the following areas?

Intellectual

- accomplishes a variety of purposes within given or related areas
- adapts to different ages, needs, interests and abilities
- arouses curiosity, stimulates initiative and invites exploration
- provides for concrete experience as a basis for abstract learning
- involves as many of the senses as appropriate
- promotes thinking and encourages practical problem-solving
- stimulates skill development and broadening of concepts

Physical

- motivates action
- allows freedom of movement
- stimulates muscle development and coordination

Social/Emotional

- encourages a favorable attitude toward self and others
- stimulates imaginative and creative responses
- provides opportunities for a variety of individual, partner and group activities
- gives pleasure

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*For many useful safety suggestions with reference to children's play and educational materials, write to the U.S. Consumer Product Safety Commission, 5401 Westbard Avenue, Washington, D.C. 20207.

CRITERIA FOR SELECTION OF PACKAGED INSTRUCTIONAL MATERIALS

Equipment and Supplies Committees (1967–1973)

Package Title or Trade Name ______

1. **What does the package contain?**

   Books ______
   Charts ______
   Films ______
   Filmstrips ______
   Games ______
   Manipulative materials ______
   Models ______
   Pictures ______
   Pupil guides ______
   Record-keeping forms ______
   Tape recordings ______
   Teacher guides ______

   Other ______

2. **Can items in the package also be purchased separately?**

   Yes ______ No ______ Explanation ______

3. **For what age groups is the package recommended?**

   ______

4. **For what pupil population is the package designed?**

   Bilingual ______ Disadvantaged ______ Regular ______ Special education ______

   Other ______

5. **For what period of time is the package designed?**

   Less than a half year ______ Half year ______ Year ______

   Other ______

6. **For what kinds of instruction is the package designed?**

   Demonstration by teacher only ______
   Individualized ______
   Total class ______
   Use by aides and volunteers ______
   Small group ______

   Other ______

7. **Which of the following areas of pupil growth are covered?**

   Cognitive learning ______
   Language development ______
   Motor development ______
   Perceptual training ______
   Self-concept development ______
   Social development ______

   Other ______

8. **What motivating factors are present in the material?**

   Arouse curiosity ______
   Develop initiative ______
   Promote creativity ______
   Stimulate interest ______
   Stir imagination ______
   Other ______

9. **Does the publisher offer new, creative materials put together to emphasize interrelationships or merely a repackaging of previously-offered materials?**

   Comments ______

10. **Are the materials open-ended, inviting children's questions and creative responses?**

    Comments ______

11. **Do the materials allow children of different abilities and aptitudes to make progress that is satisfying to them?**

    Comments ______

12. **Is there evidence that the material is designed to integrate children's experiences for use in future learning, in contrast to individually-paced, repetitive, fill-in-type exercises?**

    Comments ______

13. **What discrepancies exist between claims of manufacturers and the results of staff evaluation?**

    Comments ______

14. **What are reactions to the total packages?**

    Comments ______

Part 2

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS

Editor's Note: In the preliminary pages of this bulletin we gratefully acknowledge the ACEI Committees and their collaborators who worked with diligence and skill to develop these lists of Suggested Educational Equipment and Materials. We also acknowledge with warm thanks the diligence and skill of Neith E. Headley and Maria B. Pessoa, of the ACEI staff, who tirelessly reorganized and refined the lists into a more uniform and useful Guide. In the interest of space, we include with the lists only the Committee chairpersons and the principal collaborators. For a complete list of the Committees, see page 5.

The Developmental Needs of All Children

AN OVERALL LISTING OF SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS ACCORDING TO CHILDREN'S DEVELOPMENTAL NEEDS BASED ON THE WORK OF THE EQUIPMENT AND SUPPLIES COMMITTEES (1967-1973)

Elizabeth Neterer and
Equipment and Supplies Committees:
Chairpersons: Audrianna Allen. 1971–1973
Edwina Deans (1969–1971), Allan Leitman
(1967–1969)

I BASIC ENVIRONMENTAL NEEDS
    Furniture and Permanent Equipment
    Housekeeping and Maintenance
    Audiovisual Equipment and Materials
    Expendables
II PHYSICAL GROWTH
    Health and Safety
    Motor Skills
III INTELLECTUAL GROWTH
    Perception
    Communication
    Computation
    Scientific Thinking
IV SOCIO-EMOTIONAL BALANCE
    Community Awareness
    Creative Expression
        Arts and Crafts
        Construction
        Dramatics and Puppetry
        Music

Editor's Note of Caution:
The wide variety of materials listed in some of the categories in this section make it imperative that considered judgment be exercised in determining the most appropriate age allocation for *specific* items.

MATERIALS FOR BASIC ENVIRONMENTAL NEEDS

Some materials that are basic to classrooms may be shared by all or several teachers and therefore can be available from a central location in the building. Obvious items such as paper, pins and towels are either omitted or a limited listing is given to assure attention to the category.

Furniture and Permanent Equipment	AGES 0-3	3-6	6-10	10-14
Bookcases, movable, built in	X	X	X	X
Boxes, wooden, various sizes, on rollers, with rope handles	X	X	X	
Bulletin boards and display areas	X	X	X	X
Cabinets, closed, for adult supplies	X	X	X	X
Carpeting or rugs	X	X	X	
Chairs, various sizes, to fit children and adults	X	X	X	X
Chalkboards		X	X	X
Clock	X	X	X	X
Clothes racks or lockers for children and teachers	X	X	X	X
Cots, mats or small rugs for resting	X	X		
Crib with mattress	X			
Cushions	X	X	X	X
Dividers, such as standing screens or movable storage units	X	X	X	X
Duplicating equipment (central supply location)	X	X	X	X
Easels with removable trays	X	X	X	X
Flag: United States	X	X	X	X
Flags: State, United Nations			X	X
Filing equipment: cabinet, file boxes with file guides, work organizers	X	X	X	X
Laminating equipment (central supply location)	X	X	X	X
Mirror, full length	X	X	X	X
Paper cutter (central supply location)	X	X	X	X
Playpen	X			
Safety gates	X			
Screens, folding low panels	X	X	X	X
Shelves, low, open, for children's supplies; some on rollers; others made from planks or plywood with bricks or glass blocks as risers	X	X	X	X
Storage bins for outdoor play materials	X	X	X	X
Stove, hot plate (access to)	X	X	X	X
Stroller	X	X		
Tables for varying height and shape for library, display and work	X	X	X	X
Typewriter, primary, standard		X	X	X
Work stations on rollers, for adults	X	X	X	X

Housekeeping and Maintenance	AGES 0-3	3-6	6-10	10-14
Brooms, child and adult size	X	X	X	X
Brushes, hand and floor	X	X	X	X
Cleansers	X	X	X	X
Clothing needs: bibs, diapers, hampers	X			
Cloths for cleaning	X	X	X	X
Containers: bags, baskets, cans, jars, pails, plastic cartons with lids, trays (all items in assorted sizes)	X	X	X	X
Dusters	X	X	X	X
Dustpan	X	X	X	X
Erasers, blackboard		X	X	X
Mops	X	X	X	X
Scouring powder	X	X	X	X
Soap	X	X	X	X
Sponges, steel wool, tissue, wash cloths	X	X	X	X
Wastebasket, liners, garbage bags	X	X	X	X
Audiovisual Equipment and Materials				
Book display holders	X	X	X	X
Books of songs and rhythms	X	X	X	X
Camera and films	X	X	X	X
Cassette recorder, AC/battery with headphone, tapes		X	X	X
Chart stand, charts—handmade and commercial		X	X	X
Display board	X	X	X	X
Films, filmstrips, filmloops with and without records and tapes	X	X	X	X
Flannel or felt board with accessories: felt cut-outs, colored yarn, self-sticking figures	X	X	X	X
Globes, physical, political, relief—markable, washable, simplified		X	X	X
Listening center, central console with record and tape facility; monitoring capability for language instruction; carrels for small groups (access to)		X	X	X
Magnetic boards and magnetized markers, figures, geometric shapes, letters, numerals		X	X	X
Maps			X	X
Projectors for filmstrips, filmloops, slides, opaque and overhead projectors (central supply location)	X	X	X	X

Audiovisual Equipment and Materials	AGES 0-3	3-6	6-10	10-14
Projection screens suspended from wall, about 40″ × 40″, black-out curtains	X	X	X	X
Radio (access to)	X	X	X	X
Record player, 33⅓, 45, 78 rpm	X	X	X	X
Records: songs, rhythms, instrumental music, narratives	X	X	X	X
Slides and other transparencies	X	X	X	X
Stereoscope with slides		X	X	X
Television (access to)	X	X	X	X
Television, with videotaping and rebroadcast capability (access to)		X	X	X
View Master with reels		X	X	X
Expendables				
Acetate folders or sheets with marking pencils			X	X
Boxes of various sizes for collections of instructional and other materials	X	X	X	X
Desk and office supplies: chalk, erasers, labels, masking tape, paper clips, paper fasteners, punch (with eyelets), rubber bands, scissors, Scotch tape, stapler and staples, etc.	X	X	X	X
Linen: blankets, pads, sheets, towels, washcloths	X			
Markers of various sizes and colors	X	X	X	X
Paper: art, construction, duplicating, newsprint, writing—ruled and unruled	X	X	X	X
Pencils: lead, large for young children; colored	X	X	X	X
Pens: ball-point; felt-tip, assorted sizes and colors		X	X	X
Record-keeping materials: card files, for anecdotal records; progress-recording sheets, for specific records; portfolios, for samples of children's flat work	X	X	X	X

MATERIALS FOR PHYSICAL GROWTH

HEALTH AND SAFETY

The home-school-community environment is perhaps the greatest single source of firsthand experience for developing an awareness of health and safety practice. Too often, in this age of commercialism, this invaluable and unending source is overlooked.

Health and Safety Materials	AGES 0-3	3-6	6-10	10-14
Body-awareness supplies: pictures and charts for discussion, plastic models, hinged dolls	X	X	X	X
Books, booklets and pamphlets on: nutrition, the body and its functions, health habits		X	X	X
Disaster equipment (central supply location)	X	X	X	X
Drug education materials, tested and feasible for local use			X	X
File for records	X	X	X	X
Isolation cot (in nurse's room)	X	X	X	X
Luncheon needs: bowls, cups, glasses, pitchers, plates, flatware, trays, baskets, food carts, serving table, refrigerator	X	X	X	X
Nurse's supplies: audiometer, measuring rod, mirror, physician's scales, thermometer, vision chart; first-aid equipment: adhesive tape, sterile gauze, tissues, tweezers, tongue depressors	X	X	X	X
Relaxation equipment: cots, stored on movable racks; cribs; screens, to use between cots; mats or small rugs for resting; music equipment	X	X		
Sex education materials: pictures of male and female animals and human and animal families; live plants and animals; films	X	X	X	X
Visual aids	X	X	X	X

MOTOR SKILLS

Indoor-outdoor materials are designed to invite the use of growing muscles and the development of body coordination. Although growing and learning children need a wide variety of material, they do not need everything at the same time. In fact, an overwhelming amount of equipment can be confusing and even inhibiting.

Apparatus and Play Equipment	AGES 0-3	3-6	6-10	10-14
Balancing beams, boards or ramps, with cleats at end; about 6″ off ground, 8′ × 4″, becoming narrower and higher as child gains skill		X	X	X
Balancing and rocking boards, about 32″ × 9″, rocker diameter 4½″	X	X	X	
Balls: football, plastic, 8″ or 10″ playground, rubber, soccer, softball, volleyball	X	X	X	X

Apparatus and Play Equipment	AGES 0-3	3-6	6-10	10-14
Balloons		X	X	X
Bars, in different arrangements to permit chinning, climbing, hanging, turning		X	X	X
Basket-ball hoops		X	X	X
Bats, official, 25" to 32"			X	X
Bean bags		X	X	X
Benches	X	X	X	X
Blocks: small table, large building	X	X	X	X
Cartons—large packing boxes—to climb into, when opening is at top; to make a house, when turned sideways; to build a train, when cartons are end to end (To dig a tunnel, see crawl throughs.)	X	X	X	X
Climbers: cargo net, climb-and-slide, climbing gym; imbedded and clustered vertical logs at climbing heights; imbedded and debarked horizontal trees; plank to bridge climbers; poles, ropes, steps	X	X	X	X
Crawl throughs: corrugated-carton tunnel made by removing ends; corrugated cartons; nonflammable cloth over collapsible steel frame about 2' in diameter and 3 yds. long; lined barrel or oil drum	X	X	X	X
Equipment bag	X	X	X	X
Hoops, assorted colors and sizes		X	X	X
Jump ropes, for individuals and groups		X	X	X
Ladders, hardwood, with hook on end; vertical for climbing; horizontal for swinging and teetering		X	X	X
Old tires for swings, hop-overs, jump-offs, follow-the-leader games	X	X	X	X
Pads, foam, under climbing apparatus	X	X	X	X
Punching bag		X	X	X
Push-and-pull play materials	X	X		
Recycled play materials: discarded airplane, street car, bus, boat		X	X	X
Rings for swinging by arms			X	X
Rocking boat and rocking horse, hardwood	X	X		
Rolling and swiveling devices	X	X	X	X
Sand- and water-play areas with manipulative play materials, sand-box cover, umbrella	X	X		
Sawhorses, steel, stacking		X	X	X
Slide as exit for climbing apparatus	X	X	X	
Softball glove			X	X
Steering wheel, stick horse, ridable transportation vehicles	X	X		
Steps, 3 or more, rising 15" or more from the ground	X	X		
Tetherball			X	X
Throw-play materials, with 12" to 18" string attached to infant's high chair	X			
Tumbling mat: 4' × 6' × 2" vinyl		X	X	X
Wading pool	X	X		
Water-holders: dishpan, infant bathtub, plastic pool, water table, water tray	X	X		
Wheeled play materials: first rider with double wheels, tricycle, wagon, wheelbarrow	X	X	X	

MATERIALS FOR INTELLECTUAL GROWTH

PERCEPTION

Perception is the process by which we make sense out of the environment. Through the process of perceiving—seeing, hearing, feeling, smelling, tasting—we receive, select and organize impressions. Since future learnings depend upon earlier perceptions, it is essential that children's earliest impressions be as accurate as possible.

Materials for Perceptual Development	AGES 0-3	3-6	6-10	10-14
Balloons to blow up, fly, pop		X	X	X
Blocks, to strike or rub together	X	X		
Cloth of different textures to feel: linen, felt, plush, silk, velvet	X	X		
Color cones	X	X	X	
Cooking pans, for manipulation and/or cooking	X	X	X	X
Crib mobiles, such as strings of large plastic colored beads or wooden spools strung across the crib	X			
Design blocks	X	X	X	X
Flowers to smell	X	X	X	X
Food of different seasonings	X	X	X	X

Materials for Perceptual Development	AGES 0-3	3-6	6-10	10-14
Jigsaw puzzles of varying difficulty	X	X	X	X
Kites, to watch, make, fly	X	X	X	X
Nature materials of different textures: rocks, pebbles, sand, clay; hard and soft wood, bark; leaves, seeds, fruits, vegetables	X	X	X	X
Nested play materials: blocks, boxes, cans, pans	X	X		
Rattles of pleasing tone quality	X	X		

Materials for Perceptual Development	AGES 0-3	3-6	6-10	10-14
Records of soft music, simple tunes	X	X		
Sand boxes with digging tools and containers for pouring and sifting	X	X		
Sorters for shapes, colors and forms	X	X		
Tops for spinning and watching	X	X	X	X
Water-play materials for pouring, floating, measuring, siphoning	X	X	X	X
Wind chimes	X	X	X	X

MATERIALS FOR INTELLECTUAL GROWTH

COMMUNICATION

Learning to talk is one of the child's early developmental tasks. In learning to communicate, children develop concepts of themselves, of others and of the world. Their reactions to the experiences in their environments have direct bearing on their language patterns. Those patterns, in turn, influence the kind of persons they become and the kind of life they lead. As children, they keep growing into higher and higher levels of thinking and communication.

Materials That Facilitate Communication	AGES 0-3	3-6	6-10	10-14
Bilingual language and reading material as appropriate to the locality	X	X	X	X
Books: cloth and paper, assorted sizes and shapes; blank to record children's dictation or original stories; scrap-books; folk, multi-ethnic, animal and ABC picture books; participation books, with feel pictures or chime-in texts; easy-to-read books	X	X		
Children's classics, old and new	X	X	X	X
Dictionaries: picture, junior, standard		X	X	X
Hardbacks, paperbacks, trade books; high-interest, low-reading-level books; self-selection reading material on a wide range of levels			X	X
Stories: realism, fantasy, poetry, humor, information	X	X	X	X
Facilities for sharing, planning, communicating: bulletin boards, jackets for display; classroom book centers; display tables, mats, rug	X	X	X	X
Flannel board for stories, pictures	X	X	X	X
Homemade and collected materials for sensory perception play, involving identifying, sorting, matching	X	X		

Materials That Facilitate Communication	AGES 0-3	3-6	6-10	10-14
Homemade and collected materials for games involving phonograms, antonyms, homonyms, rhymes, word-puzzles, multi-purpose words, word and sentence games, materials to train the ear	X	X	X	X
Listening materials: records of many types of songs and rhythms, such as "Nutcracker Suite" and "Peter and the Wolf," narrative records; audio sets, cassetts and tapes; record players, listening centers	X	X	X	X
Pictures for "show and tell," to aid in establishing communicative skills	X	X	X	X
Recording machines for working individually on specific, diagnosed problems; tapes, blank, to record own voice		X	X	X
Spelling and writing materials: 1", ½", 3/8" ruled paper; pens, pencils, erasers; manuscript and script models of the alphabet; recording and labeling materials; hand printing press; primary typewriter		X	X	X

MATERIALS FOR INTELLECTUAL GROWTH

COMPUTATION

Understanding of mathematical processes begins in early childhood with perceptions gained through manipulation, exploration, experimentation and practical use. A great many games, both physical and intellectual, are steeped in mathematical ideas. Everyday living is so involved in mathematics that environmental objects, collected or made by children or parents can profitably replace much commercial material.

	AGES			
Materials That Facilitate Use of Numerals and Notation	0–3	3–6	6–10	10–14
Abacus	X	X	X	X
Counters: beans, bolts, bottlecaps, macaroni, nails, nuts, Popsicle sticks, seashells, seeds, screws, spools, stones, peas, tongue depressors, washers		X	X	X
Flannel and/or magnetic board with figures, numerals and mathematical symbols	X	X	X	X
Games: dominoes, bundles of tens, cross-number puzzles, equation games, tangrams, etc.		X	X	X
Mathematical balances		X	X	X
Number charts: consecutive to 100; addition, multiplication, subtraction and division; 2-, 3-, 4-, 5-base charts			X	X
Number puzzles and number sorters		X	X	X
Numerals, large and easily handled		X	X	
Pegboards	X	X	X	X
Place value frames				X

	AGES			
Materials Needed for Measuring	0–3	3–6	6–10	10–14
Capacity: spoon, cup, pint, quart, gallon and liter measures		X	X	X
Length: calipers, ruler, yardstick with inches marked, tape measure in inches and centimeters, meter stick in centimeters and millimeters		X	X	X

	AGES			
Materials Needed for Measuring	0–3	3–6	6–10	10–14
Monetary values: play money—pennies, nickels, dimes, quarters, half-dollars and paper money		X	X	X
Temperature: thermometer, indoor/outdoor, Fahrenheit, centigrade, large enough so children can read		X	X	X
Time: calendar, sundial, clock, watch, hourglass, egg-timer, play clock with movable hands		X	X	X
Weight: scales and weights—ounces, pounds, grams, kilograms		X	X	X
Conversion charts				X

	AGES			
Materials That Contribute to the Understanding and Shapes of Fractional Sizes	0–3	3–6	6–10	10–14
Three dimensional blocks of various shapes, colors and fractional sizes—some cut to metric measurements	X	X	X	X
Two dimensional shapes: flat surfaces in differing fractional sizes, colors, textures and geometric shapes		X	X	X
One dimensional or linear material: thread, string, yarn, roving		X	X	X
Compass		X	X	X
Protractor			X	X

SCIENTIFIC THINKING

Subject matter areas are interrelated. For instance, the musical pull-toy that educates the baby's ear also involves motor coordination. The young child's manipulation of cubes and spheres is an introduction to geometry. Working on a project with a science committee offers older children opportunity to make use of communication skills.

	AGES			
Plants and Animals	0–3	3–6	6–10	10–14
Live animals: gerbils, guinea pigs, hamsters, mice, rabbits, domestic and zoo animals (access to)	X	X	X	X
Equipment for care of living creatures: aquarium, apiary, cages and insect houses	X	X	X	X

	AGES			
Plants and Animals	0–3	3–6	6–10	10–14
Natural environment for observing birds, butterflies, insects, buds, flowers, trees, nuts, fruit, vegetables	X	X	X	X
Bird-feeding stations with seed and suet feeders	X	X	X	X

Plants and Animals	AGES 0-3	3-6	6-10	10-14
Equipment for care of plants: hoe, rake, spade—child size but of good quality; fertilizer, germinator; seeds, bulbs, young plants; stakes, string, weeding tools; wax paper cups, cut-down milk cartons; terrarium		X	X	X
Pictures and films related to environmental science	X	X	X	X
Lenses: magnifying glass, large lens on tripod, microscope, binoculars		X	X	X
Electricity				
Batteries, 6 and 12 volt dry cells; single and double switch; bell, buzzer, push button; light bulb and socket; miniature electric motor; wire, clips, simple circuit		X	X	X
Magnets: bar, bridge, cylinder, disc, horseshoe, magnetic compass	X	X	X	X
Chemistry				
Alcohol burner; baking soda, table salt, vinegar, corn starch and other cooking supplies; dyes, food coloring, iodine and litmus paper; test tubes and holders, petri dishes, knife and spatula			X	X
Force and Motion				
Door and bolt; equal-arm balance; gear-turning mechanism; hardware-fixture board with workable hinges, knocker, door knob; lock and key; simple machines such as lever, wheel and axle, pulley, inclined plane, wedge and screw; spring scales; top for spinning; tongs, tweezers, scissors		X	X	X
Light and Color				
Candle, color-paddle, color-wheel, dyes, flashlight, kaleidoscope, prism	X	X	X	X
Liquids and Solids				
Containers: flask, test tubes, bowls, bottles, jars; floating and sinking objects; funnels and medicine dropper; bubble blower; refrigerator, stove, electric plate (access to)		X	X	X
Temperature				
(See Materials Needed for Measuring.)				
Time				
(See Materials Needed for Measuring.)				
Weather				
Barometer, charts, flags, pinwheel, rain gauge, weather vane, wind guage		X	X	X

MATERIALS FOR SOCIO-EMOTIONAL BALANCE

COMMUNITY AWARENESS

The social studies deal with the study of man and his relationship with other men and his environment. The subject matter content encompasses many fields of knowledge. While this cross-fertilization is true in all areas, it is especially evident in social studies. We must recognize this fact when selecting materials.

Attitude-Building Materials	AGES 0-3	3-6	6-10	10-14
Assorted items: self-help, self-image, self-security materials such as "dress-me" dolls, cuddly dolls and animals; buckling, buttoning, tying and zippering materials; hardware-fixture boards with workable parts; mirrors, full length and hand; sand and water play materials that invite children to move from solitary to parallel, to co-operative play	X	X		
Books, paperback and hardback: picture, library, trade and reference on such topics as attitudes, careers, consumer problems, government housing, prejudice, race, schools; getting along with peers, parents and other adults; our country and other countries, our people and other people, in these times and other times		X	X	X

Attitude-Building Materials	AGES 0-3	 3-6	 6-10	 10-14
Charts, globes, maps: physical—water, land areas, mountains, harbors· political — villages, towns, cities, states, countries, world; hemispheres, longitude, latitude, time zones; rainfall, temperatures, products, habitable and uninhabitable areas, population density			X	X
Community resources: farm, fire station, library, museum, park, pond, post office, recycling centers, stores, stream		X	X	X
Current happening materials: newspapers; magazines for children, youth and adults; television and radio news programs			X	X
Homemaking materials: dishes, utensils, recipes and food typical of different countries; simple loom and sewing materials for making items typical of other cultures		X	X	X
Manipulatives: puzzles concerned with family, community, occupations, transportation, ethnic traditions, countries, continents	X	X	X	X
Multimedia materials: pupil kits with teacher manuals, films, coordinated tapes, reaction sheets for follow-up ideas				X
Programed materials: booklets, kits, machines				X

Representative Play Materials	AGES 0-3	 3-6	 6-10	 10-14
Career oriented materials: for storekeepers—cash register, plastic or clay-modeled foods, labeled but empty cans and cartons, price marker; for postmen—envelopes, canceling pads, rubber stamp, stamps, sorting pigeonholes, mailboxes, delivery trucks; for firemen—hats, boots, hoses, picks, fire extinguishers, telephones, walkie-talkies, ladder trucks; for plumbers — pipes, wrenches, calipers, pads for directives and bills; for executives and secretaries—dictaphone, dictation pads, typewriter, telephones; appropriate items for other careers		X	X	
Community awareness materials in miniature: construction sets such as pegboard communities with small trees, buildings, vehicles; layout sheets marked with streets and highways; doll house with sculptured wooden furniture; wooden, plastic, rubber and bendable animal and human figures; career-oriented cardboard figures	X	X	X	X
Homemaking materials: dividers or low screens; housekeeping equipment, child size; dress-up clothes for men and women; dolls, unbreakable, washable, multi-ethnic—with boy and girl clothes	X	X	X	

MATERIALS FOR SOCIO-EMOTIONAL BALANCE

CREATIVE EXPRESSION

Creativity is a vital ingredient in every aspect of life. It is a refreshment of the spirit, reaching into life with an awareness of ourselves, of others, and of society—with an urge to improve them. The creative child is full of wonder and willing to try creative tasks. Nearly all children possess the quality of creativity to some degree though many lose it as they grow older. It is important to help every individual learn to work and live creatively and to help those who have creative gifts to develop them.

Arts and Crafts	AGES 0-3	 3-6	 6-10	 10-14
Block printing: linoleum or soft wood blocks—potatoes or carrots may be substituted—printing inks, rollers or press, knife (Children need to be taught how to handle the tools safely.)			X	X
Collage making: glue, paper, yarn, string, pebbles, seeds, scraps of cloth and other scrounged materials		X	X	X
Drawing: drawing board; paper—manila, newsprint, wrapping, Want-Ad sections of newspaper; chalk, large soft sticks of assorted colors; charcoal sticks used with atomizer and fixative; crayons, assorted colors, jumbo size for young children; soft lead pencils, colored pencils, magic markers, pens with points of various widths; colored inks	X	X	X	X
Macrame knotting: rope, cord, string, yarn, raffia				X
Modeling: clay, paper-maché, plasticine, play dough, sand, sawdust, wire	X	X	X	X

	AGES			
Arts and Crafts	0-3	3-6	6-10	10-14
Mounting: mats, frames, adhesives				X
Painting: fingerpaint; tempera, powder and liquid; water on chalkboard — large brushes, sponges, water pail; water colors; oils; flat house, enamel and reflecting paint; shellac, alcohol and turpentine; brushes and sponges of various sizes	X	X	X	X
Paper construction: paper — bogus, construction, corrugated in assorted colors, manila, tagboard; cartons, boxes		X	X	X
Stitchery: assorted colors of burlap, cloth, felt, thread, yarn; needles, thimble		X	X	X
Dyeing: cloth, dyes, string, wax				X
Weaving: loom, carpet warp, grasses, raffia, roving, slats, strips of cloth, yarn		X	X	X
Woodworking: (See Construction.)				
Construction				
Blocks: large, basic unit 7" × 14" × 14" and multiples, hollow with hand grips; floor, basic unit 1 3/8" × 2 3/4" × 2 3/4" and multiples; table, 1" × 1" × 1"; interlocking in both floor and table sizes; nesting sets	X	X	X	
Block building accessories: vehicles—cars, trucks, trains, machines; traffic signs, 7" high for unit blocks, 30" high for large hollow blocks, authentic in color, shape and design; lifts—cranes, elevator trucks; sets of farm animals, fences and gas pumps for unit blocks; steering wheel, kegs and planks for large blocks; sets of people and animals made of wood, vinyl or rubber	X	X	X	
Wood: soft wood, ½"—¾" × 2"—8" × 3'; rough measure or any soft wood mill ends		X	X	X
Woodworking equipment: workbench, hammer, saws—crosscut and coping, brace and bit, clamps, file, plane, pliers, rasp, ruler, screwdriver, try square, chisel, vise		X	X	X
Dramatics and Puppetry				
Puppets: finger, hand, paper bag, stick (may be child made); diorama figures; role-playing cards	X	X	X	X
Accessories: collections of fabrics, felt, leather, string, yarn; simple props and costumes; cartons		X	X	X
Stage and/or screen: blocks, cartons, dividers	X	X	X	X

	AGES			
Music	0-3	3-6	6-10	10-14
Bells: hand, tuned, resonator, jingle, tone, wrist	X	X	X	X
Blocks: Oriental temple; sandpaper, with hand straps; tone; wood	X	X	X	X
Chimes: gong, triangle, xylophone	X	X	X	X
Drums and other percussion instruments: bongo; double bongo; dance, Hawaiian, gourd; drums made from coffee cans with rubber tubing for head; drums made from round oatmeal boxes with cover glued on; castanets; clappers; half coconut shells; cymbals; rhythm sticks, hardwood; tambourine, commercial or handmade, by stringing pierced bottle tops on circular wire or by tying small bells on heavy paper plates	X	X	X	X
Rattles: maracas, plastic bottles or cartons filled with buttons or pebbles—tops securely fastened	X	X	X	X
Stringed instruments: autoharp, banjo, guitar, piano, ukelele		X	X	X
Pitch pipe and tuning fork		X	X	X
Printed charts: large write-on-rub-off blank musical staff, blank musical staff paper			X	X
Radio (access to)	X	X	X	X
Record player	X	X	X	X
Records	X	X	X	X
Songs: action and response, animal, ethnic, nursery and folk, occupation, patriotic, seasonal and holiday	X	X	X	X
Rhythms: animal imitations such as waddling like ducks or high stepping like horses; natural rhythms such as walking, running, hopping, skipping or jumping; combinations such as walking and stooping	X	X	X	X
Singing games such as "Muffin Man," "Did You Ever See a Lassie?" and "Old Dan Tucker"	X	X	X	X
Listening: classic, folk, popular, ethnic	X	X	X	X
Rhythm accessories: balloons, balls, hoops, jump ropes, scarves		X	X	X
Television (access to)	X	X	X	X

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SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: An Infant Group

OF 6-8 CHILDREN AGES 0-3

INTRODUCTION
I BASIC ENVIRONMENTAL EQUIPMENT
II HOUSEKEEPING EQUIPMENT AND SUPPLIES
III HEALTH MATERIALS
    First Aid and Toilet Supplies
    Food Service
    Resting Facilities
    Safety and Sanitation
IV CRIB TOYS
V PLAY EQUIPMENT (INDOOR/OUTDOOR)
VI AUDIOVISUAL SUPPLIES
VII SENSORY PERCEPTION MATERIALS
    (Other than those listed under Crib Toys)
VIII ART MEDIA AND ACCESSORIES
IX LANGUAGE ARTS MATERIALS
X MATHEMATICS INTRODUCTORY MATERIALS
XI MUSIC MATERIALS
XII SCIENCE INTRODUCTORY MATERIALS
XIII RECORD KEEPING MATERIALS

Note: Items, quantities and priorities suggested on the following pages of this section are to be thought of as guides rather than inventories.

During infancy young children are developing a basic understanding of the world around them. Since future learning depends upon early perceptions, it is essential that we make every effort to assure that children's earliest perceptions be as accurate as possible.

Needed are materials that appeal to the senses: that can be watched, listened to, smelled, tasted, chewed, sucked, squeezed, pushed, pulled. Such materials can build ideas of color, size, shape, sound, flavor, temperature, firmness, hardness, softness, texture, tension, space and movement.

In addition to growing understanding of the things in the world, infants are developing an awareness of self. They gradually realize that they are separate from, and yet a part of, the world they are so busily exploring through their senses.

This understanding of world and self can be enhanced by thoughtful adults through proper selection of F-U-N materials—Flexible, Unbreakable, and Non-toxic:

Flexible Every child is unique. Since children grow at their own rates, and in their own ways, toys should offer a variety of learning experiences meant to enhance infants' understanding of the world and themselves in as many ways as possible. Simple household items (including many throw-aways) can often be used effectively as versatile learning aids.

Unbreakable Materials need to be highly durable in order to withstand the hard use children give them. Using unbreakable materials also saves money by avoiding costly repairs or replacement of equipment.

Non-toxic The safety of an item should always be analyzed before its purchase is considered.

In purchasing materials and supplies for an infant program, one should also consider the needs of individuals at various developmental levels. Newly arrived infants enjoy toys for sucking and chewing, as well as those with eye-catching color and pattern and tempting new sounds. The creeper-crawlers' new-found mobility should be stimulated through novel toys that urge them to get acquainted with their ever-widening world. The toddlers take great joy in toys that can be dragged and pushed about. They also enjoy materials that can be taken apart and reassembled, e.g., tower cones, nested boxes and bus-like vehicles with removable passengers.

Just as every child is different, each infant program is a unique mixture of young children at a variety of developmental levels. This fact should lead the careful adult to read the following materials list with the needs of particular children in mind, picking and choosing those materials best suited for his or her specific program.

Although a wide variety of material is needed by growing and learning children, everything is not needed at the same time; and an overwhelming amount can be confusing and even inhibiting for some children. Skillful parents and teachers, through observation, learn from children. They become sensitive to the materials to which children respond and wise in the selection and introduction of new materials.

Armed with F-U-N materials that meet the needs of the unique infants in a given program, a creative, concerned adult can successfully help them to understand this vast new world they have so recently entered.

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

An Infant Group

OF 6-8 CHILDREN
AGES 0-3

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

I BASIC ENVIRONMENTAL EQUIPMENT

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Bassinets	2			
Bookcase, slanted shelves on rollers			1	
Box, wooden, on rollers with rope handles		1		
Cabinet, storage, closed, for adult supplies including first aid, locked, out of children's reach	1			
Carpet in areas as needed	X	X	X	
Chairs:				
Adult Size:				
Regular	3			
Rocking	1	1		
Child Size:				
High	4			
Rocking		2		
Stackable	6			
Clothes rack for drying clothes			1	
Cots, mats or small rugs for resting		4		
Cribs	6			
Cubicles or lockers for personal belongings	8			
Curtains and shades, as needed	X	X	X	
Cushions, washable, plastic	4	1	1	
Dishwasher or sterilizer	1			
Electric fan (depending on ventilation system)	1			
Electric warming tray		1		
Electrical outlet cover for low sockets, as needed	X	X	X	
File cabinet			1	
Infant jump seat		1		
Infant stroller	1			
Infant swing	2			
Labels on clothing, as needed	X	X	X	
Playpen for short intervals	1			
Refrigerator	1			
Safety gate	1			
Screens, low folding panels for use as dividers	2			
Serving cart	1			
Shelves:				
High, closed, for toys and supplies not in use	1			
Low, open, for children's toys and supplies	1			
Storage bin on rollers for outdoor toys	1			
Stove or electric plate	1			

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

An Infant Group

OF 6-8 CHILDREN
AGES 0-3

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Tables:				
Adult height for diaper changing	1			
Adult height for working on menus and records	1			
Child height	2			
Serving	1			
Toilet facilities:				
Bathinettes	2			
Lavatories	2			
Toilet seat	1			
Training chairs	3			
Tote trays, for individual belongings and play materials		8		
Trash cans, covered	2			
Vacuum cleaner	1			
Wall clock	1			
Washer and dryer	1			
Wastebaskets, covered	3			
Work station on wheels, for adults				
Xerox copier (access to)	1			

II HOUSEKEEPING EQUIPMENT AND SUPPLIES

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Brooms:				
Adult size, straight and push, 1 each	2			
Child's size, straight	2			
Brushes:				
Bottle	2	2	2	
Counter	1		1	
Hand	2	2	2	
Cleansers, scouring powders, cans	3	3	3	
Dishpan	2			
Dishtowels	6	3	3	
Dishwasher or sterilizer (See Basic Environmental Equipment.)				
Dustcloths	2	2	2	
Dust mop	2			
Pots and pans	4	2	2	
Soap, bar and powdered, as needed	X	X	X	
Sponges	3	3	3	
Towels, paper, case of 3,000	2	2	2	
Trash cans, covered (See Basic Environmental Equipment.)				
Trays	4		2	
Vacuum cleaner (See Basic Environmental Equipment.)				
Washer and dryer (See Basic Environmental Equipment.)				
Wastebaskets, covered (See Basic Environmental Equipment.)				

III HEALTH MATERIALS

SUGGESTED ITEMS	QUANTITIES A	B	C	D
First Aid and Toilet Supplies:				
Band-Aids, boxes	2		2	
Cotton, sterilized, boxes	2	2	2	
Gauze, sterile, boxes	2	2	2	
Ice pack	1			
Merthiolate, Tincture of, or comparable disinfectant, bottle	1		1	
Powder, talcum, cans	8	8	8	
Q-Tips, boxes	4	4	4	
Soap, medicated, bars	3	3	3	
Tissue:				
Facial	18	18	18	
Toilet	25	25	25	
Tweezers	1			
Food Service:				
Bibs, disposable dental, used with clips	300	300	300	
Bowls, plates, cups, glasses, unbreakable, each	12	2	2	
Flatware:				
Forks, juvenile	6			
Knives, juvenile	2			
Place settings, adult	6			
Spoons, juvenile	12		6	
Spoons, serving	4			
Paper cups	200	200	200	
Paper napkins, package of 100	5	5	5	
Pitchers	4			
Resting Facilities:				
Blankets	12	2	2	
Cots, folding or stackable (See Basic Environmental Equipment.)				
Cribs (See Basic Environmental Equipment.)				
Mattress pads, assorted sizes	18			
Sheets:				
Cotton, assorted sizes	18		6	
Rubber, assorted sizes	12		2	

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Safety and Sanitation:				
Diaper changing pads, vinyl	6	2	2	
Diapers, disposable (if not provided by parents or if diaper service is not used), pkg. of 1 doz.	400	400	400	
Dishwasher or sterilizer (See Basic Environmental Equipment.)				
Hamper for soiled clothes	1			
Smocks, infant	4	2	2	
Sprays:				
Air freshener, cans	2	2	2	
Disinfectant, cans	4	4	4	
Towelettes with baby oil, disposable, as needed	X	X	X	
Towels:				
Bath size	12	6	6	
Fingertip size	18	3	3	
Trash cans, covered (See Basic Environmental Equipment.)				
Uniforms, adult	3	2	1	
Washcloths	18	18	18	
Washer and dryer (See Basic Environmental Equipment.)				
Wastebaskets, covered (See Basic Environmental Equipment.)				

IV CRIB TOYS

SUGGESTED ITEMS	A	B	C	D
Beads, large, bright, on a strong cord, wooden or plastic, sets	3			
Child sized pillows for propping, etc.	6	2		
Clutch balls, large, with finger holds in soft material	2		2	
Cradle gyms—elastic band across the crib from which are suspended bead strings, empty thread spools, plastic bracelets, etc.	3		1	
Crib mobiles—moving objects suspended from coat hanger attached to crib, or commercial varieties	4		2	
Hand toys to occupy child during diaper changings	8		4	
Rattles, securely enclosed, pleasant-to-the-ear, including measuring spoons on a ring, spools in a box, and sound makers contrived from juice cans and large plastic beads	4		2	
Squeeze toys	4		2	
Sucking and chewing toys, including pacifiers and teething rings	6	4	2	
Toys to wear:				
Bell bracelets, made with a strip of elastic and a small bell	4		2	
Colorful wrist bands	4		2	
Foot sock with a smiling face	4		2	

V PLAY EQUIPMENT (INDOOR/OUTDOOR)

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Apparatus:				
Boxes of various sizes for climbing	5			
Crawl-throughs: oil drum, lined barrels, cardboard tubing		1		
Indoor stair and slide combination	1			
Pads to place under climbing and sliding apparatus	2			
Rocking boat	1			
Tumbling mat		1		
Wading pool			1	
Walking boards—planks slightly raised at one or both ends		2		
Large Muscle Activity Toys:				
Balls, various sizes, 3", 6", 12", 20" diameter, rubber or plastic	4		2	
Blocks, large	10	6		
Household items: pots, and pans, spoons and other kitchen utensils found in most homes	4			
Pounding peg board and mallet	2			
Pull toys, commercial or scrounged	3			
Rocking horse		1		
Stick horse		2		
Throw toys: bean bags, foam blocks, textured balls	4	2		
Wagon, small	1			
Walker to aid in learning to walk	1			
Representative Play:				
Cooking pans	3			
Dishes, soft unbreakable plastic	12			
Dolls, soft unbreakable washable, multi-ethnic, with change of clothing	3			
Foods, unbreakable plastic		3		
Furniture; stove, table, sink, cupboard, bed, baby carriage, one each		6		
Housecleaning items: broom, dustpan, one each		2		
Playhouse, child-size, with dividers or low screen			1	
Sand Play:				
Cups, spoons, plastic bottles and other measuring devices	6			
Dump and fill containers: bowls, cans, pails, measuring cups and spoons, sieve, funnel, scoop, sand shovel	10			
Indoor cornmeal sandbox, approx. 24" × 24" × 5", filled with 15 lbs. cornmeal	1			
Outdoor sandbox	1			
Sandbox cover	1			
Umbrella		1		
Water Play:				
Container, plastic bathtub, dishpan, or water table	1			
Dump and fill containers: bowls, cans, bottles, pails, watering cans, pitchers	10			
Manipulative materials: corks, floating bath toys, soap, sponge,				

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: An Infant Group

OF 6-8 CHILDREN
AGES 0-3

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES A	B	C	D
sprinkle bottle, lotion dispenser bottle, funnel	X	X	X	
Vinyl sheet to place under water container	1			

VI AUDIOVISUAL SUPPLIES

SUGGESTED ITEMS	A	B	C	D
Chalkboard, easily cleaned		1		
Display boards, corrugated or pegboard	1		1	
Pictures about food, health, safety, science, and social learning, for individual discussions	8	2	2	
Record player	1			
Records:				
Musical: listening, activity	4	2	2	
Narrative: talking stories and poetry, such as Peter Rabbit	4	1	1	
Tape recorder with playback		1		
Tapes/cassettes to record children's speech	2			
Tapes/cassettes: sounds of different animals, city noises, farm noises, stories, music	3	2	1	

VII SENSORY PERCEPTION MATERIALS (OTHER THAN THOSE LISTED UNDER CRIB TOYS)

SUGGESTED ITEMS	A	B	C	D
Hearing Materials:				
Bell blocks, wood, with bell inside each block, set of 5	1			
Bell bracelets		6		
Chimes, wind		2		
Match box rattle (small objects in empty sealed match box)			6	
Mobiles, musical		2		
Music boxes, pull-a-cord or wind-up	1	1		
Paper to rattle and tear	X	X	X	
Push, pull and squeeze toys with pleasant sounds	6		2	
Rattles (See Crib Toys.)				
Records and tapes, children's music, classical, bilingual, special interest (See Audiovisual Supplies.)				
Seeing Materials:				
Beads, in bright colors, large wooden or plastic to pop, snap together or string on yarn, rope or shoelaces	200			
Buttons, large, in assorted pairs for matching and stringing	20-200			
Curtains as needed	X	X	X	
Cylinders in graduated sizes, set of 5	1			
Mirrors	2			
Mobiles, brightly colored	2	1	1	
Peg board with large colored pegs	2			
Pen flashlight covered with colored cellophane			1	
Plastic bottles, sealed, with various colors of water inside, child size		6		
Wall hangings, textured and touchable	1	1		
Smelling Materials:				
Cotton, soaked with perfume or other aroma, placed in small, sealed plastic bottles with perforated lids, set		1		
Fresh flowers	X	X	X	
Spices, sealed, in plastic bottles with perforated lids, set		1		
Tasting Materials:				
Foods, new and familiar, in identical containers, for identification games	X	X	X	
Foods for tasting: banana, dry cereal, honey, hot cereal, jello, lemon, orange, puddings	X	X	X	
Touching and Feeling Materials:				
Bean bags (See Play Equipment, Indoor/Outdoor.)				
Cornmeal sandbox (See Play Equipment, Indoor/Outdoor.)				
Cuddle toys, animals and dolls	5	2	1	
Flannel covering for babies' bottles to encourage feeling while feeding			3	
Foods with different textures (See Tasting Materials.)				
Poke boxes (shallow boxes with hand holes on lid through which infant can touch variety of textures)	1	1		
Sand play (See Play Equipment, Indoor/Outdoor.)				

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Texture ball (cloth ball covered with such textures as velvet, fur, sandpaper, cotton, etc.)	1	1	1	
Texture glove made from a variety of materials, to be worn by adult			1	
Warm and cold materials: hot cereal, ice cubes, etc.	X	X	X	

VIII ART MEDIA AND ACCESSORIES

SUGGESTED ITEMS	A	B	C	D
Accesories:				
Brushes, large, for water painting and painting with color	5			
Smocks (Use old shirts worn backwards or aprons.)	3	1	1	
Media:				
Beauty objects, nature's contributions, such as flowers, plants, rocks, shells, as available	X	X	X	
Chalk, soft, white, for chalkboard or paper, sticks	24			
Crayons, large, assorted colors	16			
Dough for modeling (1 part flour, 1 part salt, ¼ part water, mix to soft consistency and store in cool place in waxed paper. Plastic cookie cutters add to the fun.)	X	X	X	
Illustrations of pleasing line, form, color, such as designs in wallpaper sample books, gift wrappings, wall decorations of mounted fabrics, magazine pictures	X	X	X	
Poster paint, red, yellow, blue, black, white, qt. each	1	1	1	
Soap suds, colored, made with vegetable coloring	X	X	X	
Paper:				
Assorted colors for mounting display materials, pkg.	4			
Assorted sizes, shapes and colors	X	X	X	
Computer print-out, scrounged	X	X	X	
Magazines, old	X	X	X	
Newsprint, pkg. of 100 sheets	3	3	3	
Wallpaper samples	X	X	X	

IX LANGUAGE ARTS MATERIALS

SUGGESTED ITEMS	A	B	C	D
Booklets, to record child's verbalizations	8			
Books:				
Cloth and paper, with squeeze and feel pictures, various sizes and shapes	8			
Song	2	1	1	
Story, to read to children, plus access to library	6	4	2	
Discussion pictures about foods, health, safety, science, social learning	8	2	2	
Feel box (Use small box with child-hand-size hole. Fill with objects child can feel, take out, talk about and put back.)	1			
Flannel board	1			

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Flannel board accessories: animals, geometric shapes, letters, numerals, people	18			
Language games involving identifying, sorting, matching	4			
Listening materials (See Audiovisual Supplies.)				
Puppetry, familiar figures:				
Hand puppets, multi-ethnic	4			
Homemade puppets, stick, sack, cloth	2			
Screen behind which puppets operate			1	
Tapes, cassettes and records (See Audiovisual Supplies.)				

X MATHEMATICS INTRODUCTORY MATERIALS

SUGGESTED ITEMS	A	B	C	D
Abacus		1		
Books on numbers		2		
Clock, play, with movable hands		1		
Coffee cans, empty, with clothes pins to be clipped on rim	4			
Counting cubes and discs	100			
Flannel board and cut outs (See Language Arts Materials.)				
Games:				
Dominoes, large, set	1			
Form boards	2	1	1	
Number puzzles			2	
Number sorters		2		
Magnetic board and accessories	1			
Manipulative objects:				
Balls, assorted sizes and colors	6			
Blocks, geometric shapes	10			
Boxes or cans, nested, set	2			
Pans with lids	4			
Popsicle sticks		24		

XI MUSIC MATERIALS

SUGGESTED ITEMS	A	B	C	D
Autoharp	1			
Bells, melody, hand and wrist, set	1			
Chimes, set	1			
Drums:				
Bongo	2			
Handcrafted instruments, such as coffee can with plastic lid or innertube top, oatmeal box with lid glued on	4			
Record Player (See Audiovisual Supplies.)				
Rhythm sticks, pair	2			
Shakers:				
Handcrafted instruments, such as pie plate tambourines and pebble-filled plastic containers	4			
Maracas	2			
Tambourines	2			
Song Books: songs such as "Ring Around the Rosie", "London Bridge is Falling Down", "Pop Goes the Weasel"	2	1	1	
Tapes and Records (See Audiovisual Supplies.)				

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

An Infant Group

OF 6-8 CHILDREN
AGES 0-3

SUGGESTED ORDER OF ACQUISITION

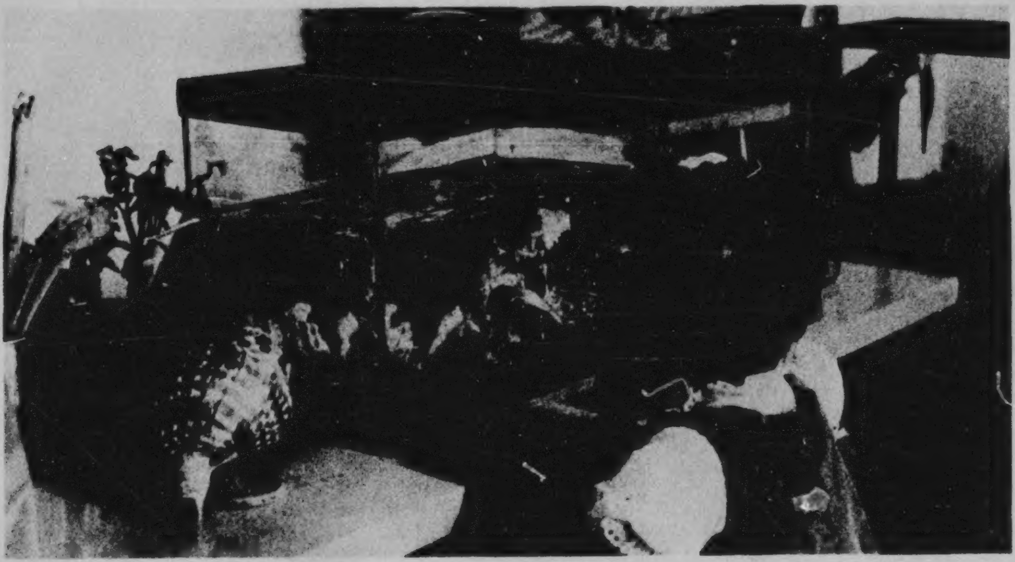
Essential Items
  First Year — A
Replacements and Additions
  Second Year — B
Replacements and Additions
  Third Year — C
Luxury Items — D

XII SCIENCE INTRODUCTORY MATERIALS

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Aquarium with fish	1			
Beauty examples from nature: autumn leaves, snow, flowers, fruits, nuts	X	X	X	
Bird and cage		1		
Bird feeding shelf with suet feeder		1		
Floating and sinking objects	6			
Gear turning toys, wood or plastic		2		
Hardware fixture board with workable parts: hinges, door bolts, knockers, knobs, etc.		1		
Locks and attached keys, large	2			
Magnets, large horseshoe	2			
Magnifier on tripod		1		
Nuts and bolts, large, wood or plastic, set		1		
Plants, living	X	X	X	
Shells and rocks, wide assortment, set of 8-10	1	1	1	
Terrarium with plant and amphibian life		1		

XIII RECORD KEEPING MATERIALS

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Attendance record sheets, weekly	45	45	45	
Budgeting record book	1	1	1	
Card file for anecdotal records	1			
File cards, 6" × 4" or to fit available file drawers, pkg. of 100	5	5	5	
Health and general information reporting sheets	12	12	12	
Portfolios of children's work	12	12	12	
Progress reporting sheets on specific areas	12	12	12	



SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

Mio Polifroni, Carol Phillips and Doris Smith
Committee Chairperson, Elizabeth J. Hedges

INTRODUCTION
I BASIC ENVIRONMENTAL EQUIPMENT
II GENERAL MAINTENANCE, INDOOR/OUTDOOR
III HOUSEKEEPING SUPPLIES
  Cleaning and Laundry
  Sewing
IV HEALTH AND SAFETY
  First Aid Supplies
  Food Preparation and Service
  Resting Facilities
V AUDIOVISUAL EQUIPMENT
VI APPARATUS FOR PHYSICAL ACTIVITIES
VII BUILDING AND CONSTRUCTION MATERIALS
VIII CREATIVE ARTS
IX DRAMATIC PLAY
X LANGUAGE ARTS AND LITERATURE
XI MATHEMATICS
XII MUSIC
XIII SCIENCE
XIV OFFICE SUPPLIES AND RECORD KEEPING
XV TRANSPORTATION

Note: Items, quantities and priorities suggested on the following pages of this section are to be thought of as guides rather than inventories.

For both child and teacher, nursery school affords exciting challenges. Although each child brings individual styles of relating to the world, all three- and four-year-olds share many common characteristics.

Through a wide variety of sensory exploration, all nursery school children are developing basic concepts that are the foundation of adult logical and abstract reasoning. Since young children's thought processes are still dependent on action and interaction with things, they need a wealth of time to play with raw materials, toys, games, adults and peers. They repeat actions over and over in efforts to gain mastery that is always more connected with their interaction with materials than with their concern about having a finished product.

The process of socialization through contact with children of their own age is critical for developing cognitive as well as developing social and emotional skills. Indeed, as much growth in the development of cognitive skills is fostered through collaboration with peers as through instruction from adults.

Pre-math and pre-reading skills evolve as children engage in play—with blocks, sand, water, dolls and other kinds of play.

Important learning ingredients for three- and four-year-olds are *time* in which to fully explore materials and ideas, and *questions* (rather than information) from the teacher to further their own inquiries.

Imagination and creativity are at a peak for three- and four-year-olds, and a wide variety of open-ended materials further supports their growth. Materials that can be arranged and rearranged provide avenues for creative expression as well as for emotions and feelings.

Mastery of one's body, a task that begins in infancy, is of prime importance in the nursery-school years. Repeated opportunities must be provided for young children to coordinate body movement with seeing, hearing, touching, smelling and tasting.

Since the out-of-doors affords many opportunities for both sensory exploration and freedom of movement, teachers are encouraged to use it for as many activities as possible.

The skills that we adults neatly categorize as social, emotional, physical and intellectual are not so neatly separated in growing children. These skills develop simultaneously, in an intricately interwoven network that cannot be taken out of context. The school environment for young children needs to be both flexible and integrated; accordingly, their materials need to be varied and multifaceted. It is impossible to offer any one "right list" of equipment and materials for a nursery school program. Each teacher must choose items with the physical space available, the needs of the children and parents involved, *and* his or her own teaching style in mind.

Maximizing the use of materials, raw,

scrounged and manufactured—both those found in the following lists and others—will greatly enhance the quality and joy of young children's living and learning. *Mio Polifroni*

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
  First Year — A
Replacements and Additions
  Second Year — B
Replacements and Additions
  Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES A	B	C	D
I BASIC ENVIRONMENTAL EQUIPMENT				
Benches for outdoor use to seat 8-10 children and adults	2		2	
Bookcase for children's books, on casters, 1 or 2 slanted shelves on top	1			
Bookshelf, for adult books, up high	1			
Bulletin boards, portable	2			
Cabinets:				
Movable, sturdy, with adjustable shelves for storage of curriculum materials, cleaning supplies, food, etc.	2-3			
Movable, sturdy, with rigid shelves, child height for self-help equipment and displays	2		2	
Chairs:				
Adult size:				
Desk	1			
Folding, for meetings	10	20	20	
Rocking		1		
Child size:				
Bean bag			1	
Rocking		1		
Stackable, light weight but sturdy, 1 per child, several for staff and visitors	30			
Chalkboard, portable, with chalk and erasers	1			
Clock, wall	1			
Counter or shelf for preparation of craft materials and food	1			
Cubbies:				
Indoor, wood, with bottom shelf, hooks above and 1 or 2 shelves at the top, 1 per child	16-20			
Outdoor storage space, approx. 10″ × 10″ × 12″, for children's belongings—useful in warmer climates		16-20		
Drinking fountain	1			
Filing cabinet, 2-4 drawers		1		
Laundromat (See Housekeeping Supplies - Cleaning.)				
Loft, with rugs and pillows, high enough for children to stand under and adults to supervise		1		
Peg board with pegs for storage/display		1		
Pillows	4			
Refrigerator	1			
Rugs, if room not carpeted, indoor/outdoor, approx. 9′ × 12′	1	1		
Shed, outdoor, with cupboards, for storage of maintenance supplies and items such as hollow blocks, vehicles, sand-box toys, art materials, etc., rain and vandal-proof	1			
Shelf unit, for blocks, so individual sizes and shapes can be easily seen, chosen and put back by children and adults	1			
Sinks:				
Indoor, with counter space	1			
Outdoor, with counter space		1		
Sofa			1	
Step-stool	1			
Stove	1			
Tables:				
Adult size:				
Seating 4, folding	1			
Seating 8-10, folding for meetings				2-5
Child size:				
Seating 4-8, same height, so can be combined	4			
Seating 8-10 children and adults, for outdoor use	1-2			
Serving cart	1			
Serving table		1		
Toilet facilities:				
Lavatories	3			
Toilet seats	3			
Trash cans, with lids, large	2			
Wastebasket, large with lid	2			

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
II GENERAL MAINTENANCE INDOOR/OUTDOOR				
Broom, push, heavy duty for outside	1			
Bucket, large		1		
Carpentry tools (See Building and Construction.)				
Electrical extension cord and plug, heavy duty	1			
Hardware kit: nails, nuts, bolts, sandpaper, screws, staples, washers, etc.	1			
Iron, electric	1			
Ironing board		1		
Ladders:				
Extension			1	
Stepladder		1		
Stepstool	1			
Lawn mower, hand or power, if needed	1			
Light bulbs	6	6	6	
Painting supplies: alcohol, brushes, paint, shellac, turpentine, varnish (items accumulated)	X	X	X	
Plunger	1			
Power tools, set				1
Rakes:				
Garden	1			
Leaf		1		
Rope, 4' to 8'	1			
Shovel or spade	1			
Trash cans with tight fitting lids	1	1		
Trash bins			1	
Trouble light				1
Twine, cone	1		1	
III HOUSEKEEPING SUPPLIES				
Cleaning and Laundry:				
Alcohol, qts.	2	2	2	
Brooms:				
Push	1		1	
Regular	1			
Brushes:				
Bottle	2	2	2	
Counter	1			
Toilet	1			
Cleansers:				
Glass cleaner, can	1	1	1	
Scouring powder, cans	12	12	12	
Sterilizing solution, bottles	2	2	2	
Cloths:				
Cleaning	6	2	2	
Dish	4	1	1	
Dishpan	2			
Drying rack, folding	1			
Fly swatter	1			
Garbage can with lid	1			
Iron (See General Maintenance, Indoor/Outdoor.)				
Ironing board (See General Maintenance, Indoor/Outdoor.)				
Laundromat, clothes washer and dryer (access to)				
Mops:				
Dust	1			
Wet	1		1	
Pails	2			
Plunger (See General Maintenance, Indoor/Outdoor.)				
Soap:				
Bar, doz.	3	3	3	
Flakes, box	3	3	3	
Liquid, qt.	1	1	1	
Powdered, box	3	3	3	
Sponges, several sizes	6	2	2	
Strainer, sink	1			
Toilet paper, rolls	24	24	24	
Toilet protective tissue covers and dispenser, pkgs.				3
Towels:				
Bath, each child brings own	X	X	X	
Dish	8	2	2	
Hand	12			
Paper, case of 3,000	4	4	4	
Vacuum cleaner if floor is carpeted	1			
Wastebaskets:				
Large, with covers	2			
Small, with covers	1	1		
Sewing:				
Buttons, assorted	25	15	10	
Cloth, variety of odds and ends	X	X	X	
Iron (See General Maintenance, Indoor/Outdoor.)				
Ironing board (See General Maintenance, Indoor/Outdoor.)				
Needles, assorted package	1		1	
Pins, roll	1		1	
Scissors and shears (See Creative Arts.)				
Sewing machine				1
Tape measure	1			
Thimbles	2			
Thread, black and white	2			
String, ball	1		1	
Yarn, ball	2		2	
IV HEALTH AND SAFETY				
First Aid Supplies:				
Cots and cotton blankets	3			
First aid cabinet stocked in accordance with individual school regulations or with the following items:	1			
Band-Aids, boxes	2	2	2	
Ice pack	1			
Medicated soap, bars	2		2	
Merthiolate, Tincture of, or bottle of comparable disinfectant, 6 oz.	1		1	
Sterile gauze, rolls	2		2	
Tweezers	1			
Handkerchiefs, paper, small hospital size, boxes	12	12	12	
Rugs, if floor is uncarpeted, washable, 27" × 48" or towels from home	X	X	X	

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
IV HEALTH AND SAFETY				
Soap, liquid (See Housekeeping Supplies.)				
Toilet paper (See Housekeeping Supplies.)				
Towels, paper, junior size, pkg. of 150	10		10	
Food Preparation and Service:				
Food and cooking are considered part of the education program for children and adults, as well as serving nutritional needs. Health standards and regulations must be observed. Items* are suggested only for schools which serve hot meals daily.				
Blender*		1		
Bottle opener	2	2	2	
Bowl scrapers, various sizes	2		2	
Bowls:				
Serving, unbreakable, assorted sizes	3			
Soup-cereal, plastic	24			
Soup, paper, for special foods or events			36	
Sugar	2			
Cake pans, unbreakable	4			
Canisters, or other food containers, with lids	6			
Can openers:				
Electric	1			
Hand	1		1	
Coffee maker	1			
Colander	1			
Cookie:				
Cutters, assorted sizes, special shapes for holidays	8			
Decorator			1	
Sheets	4	1	1	
Corn popper, hand or electric			1	
Cups:				
Coffee, unbreakable, for adults	6			
Dispenser for paper cups			1	
Hot drink, disposable	48	48	48	
Paper, flat bottom, to fit dispenser, box of 100	6	6	6	
Cutlery:				
Forks:				
Heavy plastic, reusable, for special events			60	
Long handled	2			
Salad, stainless steel, for children and adults*	36			
Serving	3			
Knives:				
Bread	1			
Butcher	1			
Dinner, heavy plastic, reusable, for special events			60	
Paring	2	2		
Stainless steel, for children and adults	12-20			
Spoons:				
Coffee-dessert, heavy plastic	36			
Cooking, with long handles, unbreakable	3			
Serving	6			
Soup, stainless steel	6			
Teaspoons, stainless steel*	36			
Deep fat fryer				1
Double boiler*	2			
Egg beater, hand	1			
Electric mixer*	1			
Extension cord	1			
Flour sifter	1			
Fry pans:				
Electric	1			
Regular, 6", 8", 10", 12"*	2	2		
Funnels:				
Large	1			
Small		2		
Glasses, unbreakable:				
Large	6			
Small, 6 oz.	24-36			
Grinder*		1		
Hot pads	4	2		
Hot plate, electric—stove if full day	1			
Ice cream freezers:				
Electric				1
Hand				1
Ladles	2			
Measures:				
Bowls, nesting set, unbreakable	3			

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Cups, unbreakable, sets	2			
Spoons, sets	2			
Napkins, paper, buy in quantity	X	X	X	
Oven, portable, if no stove available		1		
Pepper grinder		1		
Pepper shakers	1			
Pie pans, unbreakable	6			
Pitchers, unbreakable:				
Cream	1			
Pt. size	4			
1-2 qt. size	3			
Plates:				
Dessert, paper	48		48	
Dessert, plastic, 1 per person plus several for guests*				36
Dinner, heavy plastic*	36			
Dinner, paper	36			
Serving, assorted sizes	4	2		
Pot holders	4			
Rolling pins, additional ones for children's use	2			
Salad bowl and servers*	1			
Salt shakers, incl. one for stove	4			
Sauce pans, 1 qt., 2 qt., 4 qt., 6 qt., with lids*	4			
Serving cart (See Basic Environmental Equipment.)				
Sieves:				
Large	1			
Small	1			
Spatulas, assorted sizes	3			
Storage containers:				
Freezer*	2			
Refrigerator	4			
Tablecloths, plastic, to be used for meals or cooking activities, one for each table	X			
Table mats, plastic, if desired		24		
Teakettle	1			
Tongs	1			
Trays, assorted sizes	6			
Vegetable peeler	1			
Warming tray, electric			1	
Resting Facilities: (If desired.)				
Cots, aluminum frame, washable canvas, stackable	X	X	X	
Blankets, cotton:				
Each child brings own	X	X	X	
Available for emergencies (See First Aid above.)				
Resting mats	X	X	X	
Room dividers	X	X	X	
Sheets, cot size	X	X	X	

V AUDIOVISUAL EQUIPMENT

SUGGESTED ITEMS	A	B	C	D
Films and film strips (access to)				
Filmstrip projector		1		
Headphones				2-4
Jack for headphones				1
Movie and sound projector (access to)				
Record player (See Music.)				
Records (See Music.)				
Slide projector (access to)				
Slides (access to)				
Tape recorder	1			
Tapes or cassettes for listening and recording	2	1	1	

VI APPARATUS FOR PHYSICAL ACTIVITY

SUGGESTED ITEMS	A	B	C	D
Balance beam with supports		1		
Balls	4	1	1	
Barrels	1		1	
Bean bags	4	2		
Bicycle pump		1		
Boards:				
Resilient, for jumping	2		1	
Plain, 6'-8'	3		2	
Cleated, 4'-6'	1	1		
Boxes, large, scrounged	2			
Bridges, set of nesting, metal sawhorse type, set		1		
Climbing structures: old tires, empty electrical reels, concrete culvert units	2		1	
Crates, packing boxes	1	1	1	
Digging hole	1			
Dollies, hand	1	1		
Fences, portable, 6' lengths		3		
Hoops, 18" to 24" in diameter		3		
Hose, length as needed	1			
Ladder, lightweight, sturdy for children, 4' to 6' high	1			
Net, sturdy, for climbing		1		
Pails, assorted sizes	3		2	
Platform with railing, ladder, sliding pole, storage or play space underneath		1		
Playhouse frame			1	
Pulleys		1	1	
Rope, 6'-8' length	1		1	
Sandbox frame with sand (water faucet and hose nearby)	1			
Sawhorses, assorted sizes	2			
See-saw, fulcrum to be used with boards			1	
Shovels, small but sturdy	4			
Slide, portable or attached to climbing structure (Long board can be used for sliding.)		1		
Steering wheel, to fit on block or frame		1		
Step platforms, if steps not otherwise available		2		
Stick horses		2		
Swing set, double with canvas seats	1			
Tubs, metal, different sizes	1	1		
Tumbling mats		1	1	
Wheel toys:				
Tricycles	2	1		
Tricycle trailers	1	1		
Wagons	2			
Wheelbarrow		1		

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

VII BUILDING AND CONSTRUCTION MATERIALS

SUGGESTED ITEMS	A	B	C	D
Bin for lumber			1	
Blocks:				
Hollow	30		20	
Parquetry, set	1	1	1	
Table, choose from cube, interlocking, nesting, regular small sets in variety of materials: wood, plastic, rubber	3	2	1	
Unit, full school set (protected floor space and appropriate shelving important)	150	150	150	150
Boards, small flat 24"-36" long, to use with blocks	4		2	
Brushes, paint, broad	3		2	
Building sets: (Choose from such as the following in school size sets or sufficient quantities to satisfy needs.)				
Crystal Climbers			1	
Giant tinker toys			2	
Lego	1			
Lincoln Logs		1		
Rig-a-Jig			1	
Rising Towers	1			
Tinker toys		1		
Carpentry: (All tools real adult, not toy)				
Bench	1			
Clamps	4			
Drill and assorted bits		1		
Hammers	2			
Measuring rod, tape, ruler, one of each	3			
Nails, assorted sizes, ½" to 2", some very long, lbs.	3	3	3	
Nuts and bolts, assorted, box	1		1	
Pliers	1			
Sand paper, medium grit, pkg.	1			
Saws	1	1		
Screwdrivers, regular and Phillips	2			
Screws, box	1			
Washers, assorted sizes, box		1		
Cloth, yds.	2		2	
Corks, supply accumulated	X	X	X	
Foam rubber pieces, supply accumulated	X	X	X	
Glue, tubes	1	1	1	
Lumber:				
Assorted shapes and sizes, soft, scrounged (often available from lumber yard disposal bins and carpentry shops), 50-75 pieces	X	X	X	
Assorted sizes, rough measure footage, 30′-60′, purchased	1	1	1	
Paint, tempera, qts.	2	2	2	
Puzzle frame/holder		1		
Puzzles	5	3	2	
Rope (See Apparatus for Physical Activities.)				
Sandbox (See Apparatus for Physical Activities.)				
Sand/water play materials, all unbreakable:				
Brushes, large	3		3	
Containers, wide variety	4	4	2	
Dishes, variety	4	4	2	
Dishpans	1	1		
Floating toys and objects	4		2	
Funnels, assorted sizes	2		1	
Hose, small pieces, can be scrounged	2		1	
Measuring sets:				
Cups	2			
Spoons	2			
Molds, assorted	3	2	1	
Pails, assorted sizes (See Housekeeping Supplies.)				
Pitchers	1		1	
Scoops	4	2	2	
Sieves	2			
Soapflakes, box	1	1	1	
Sand/water table or tray	1			
Shellac, clear, qts.	1		1	
Straws, plastic, pkg.	1	1	1	
String (See Housekeeping Supplies.)				
Tongue depressors or craft sticks, pkg. of 1,000	1			
Tooth picks, colored, box	1		1	
Twine (See General Maintenance, Indoor/Outdoor.)				
Vehicles:				
Construction, large, sturdy, variety	3		1	
Transportation, unbreakable, in various sizes	6	2	2	

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Wheels, wooden discs	6	4	2	
VIII CREATIVE ARTS				
Aprons, plastic or cloth, homemade	4	2	2	
Beads, and other objects for stringing	500	250	250	
Brushes, paint, ½"-1" thickness, handle length 6"-9"	12	6	6	
Cans for cutting dough, assorted sizes	4	2	2	
Chalk:				
Assorted colors, large, box	1	1	1	
White, box	1	1	1	
Clay, gray and red, lbs. each	50	50	50	
Cloth:				
Like old sheeting to paint/draw on, supply accumulated	X	X	X	
Plastic drape, one for each table	X	X	X	
Clothes pins, for hanging art work	18			
Collage materials, scrounged such as pieces of cloth, paper, leather, plastic, old cards, buttons, styrofoam, yarn, ribbon, sequins, glitter, beads, etc., supply accumulated	X	X	X	
Containers:				
For clay, plastic with lid	2			
For collage materials: old boxes, baskets, jars, etc., supply accumulated	X	X	X	
For paint: small cans, cut down cartons, plastic, with lids	10	5	5	
Cookie cutter, for use with play dough	4		2	
Crayons, jumbo, assorted colors, boxes	10	5	5	
Drying rack for art materials, if needed			1	
Easels:				
Community, for outdoor use, if space available			1	
Double, adjustable	2			
Garlic presses for use with clay	2			
Glue, white, inexpensive (See Building and Construction Materials.)				
Hole puncher	1			
Kiln (access to)				
Knives, table, for use with clay and dough (can be old)	3		3	
Laces for stringing	12		6	
Looms, handmade out of cardboard, paper plates, wood and nails, for simple weaving	2	2	2	
Marking pens	6	6	6	
Masking tape, roll	1	1	1	
Paint:				
Finger, commercial, pts.	6	6	6	
Finger (Make as needed out of starch, water, tempera and soap flakes.	X	X	X	
Liquid tempera, assorted colors, qts.	10	10	10	
Powdered tempera, assorted colors, boxes	6	6	6	
Watercolors, boxes		2		
Paper goods—varied kinds and sizes, shapes, colors—to paint and draw on: construction paper, kitchen shelf paper, wrapping paper, cardboard, egg cartons, etc., supply accumulated	X	X	X	
Paste, semi-liquid, white, gal.	1	1	1	
Pencils, thick	6		6	
Pie tins or other containers, for children to use in mixing paint	6			
Plasticine, lbs.	5	5	5	
Play dough, homemade with flour, salt, water, oil and tempera	X	X	X	
Potter's wheel (access to)				
Printing materials for play dough, clay, and paint, assorted kinds: cut vegetables, spools, blocks, etc., supply accumulated	X	X	X	
Rolling pins	2			
Rope, for hanging art work, approx. 12'		1		
Salt, for cooking and making play dough, box	1	1	1	
Sand, for painting, lb.	1			
Scissors:				
Rounded, one pair left-handed, child-size	8		2	
Semi-pointed, one pair left-handed, child size	8		2	
Shears, pair, adult-size	1			
Scotch tape, rolls	2	2	2	
Soap:				
Flakes, to whip for painting (See Housekeeping Supplies.)				
Liquid, to put in paints (See Housekeeping Supplies.)				
Sponges, to be cut into pieces approx. 1" × 2" × 2" for painting	2	1	1	
Squeeze bottles, supply accumulated	X	X	X	
Stapler	1			
Staples, box	1	1	1	
Starch for making finger paint, boxes	2	2	2	
String and twine, for collages, painting and weaving (See Housekeeping Supplies.)				
Tongue depressors or craft sticks, for use with clay, collage and dough, pkg. of 1,000	1			
Toothpicks, for painting and use with clay, collage and dough, box	1	1	1	
Wood pieces for collage and construction, scrounged, supply accumulated	X	X	X	
Yarn for collage, stitchery and weaving, scrounged, supply accumulated	X	X	X	

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
IX DRAMATIC PLAY				
Animal:				
Costumes, homemade or scrounged		2	2	
Figures, small, plastic/rubber, a variety in quantity for use with blocks and sand/water play	16		8	
Puppets, assorted	4	1	1	
Stuffed animals	4		2	
Camping:				
Backpack, from surplus store	1			
Blankets				2
Camper truck			1	
Flashlight	1			
Lantern			1	
Pup tent		1		
Sleeping bag		1		
Stove			1	
Utensils	4		2	
Doctor/Nurse:				
Bandages/band-aids, kit	1		1	
Hospital gown and uniform, one of each		2		
Instruments:				
Sphygmomanometer for blood pressure		1		
Stethescope		1		
Mirrors:				
Angle				1
Head		1		
Mask		1		
Grooming-toilet articles: male and female, comb, hair brush, hair rollers, hand mirror, nail brush, manual razor without blades and/or electric razor with plug off, shaving brush, soap	X	X	X	
Home Management and Family Living:				
Bathing and cleaning:				
Aprons, plastic (See Creative Arts.)				
Bathinette		1		
Bottle brush	1			
Broom, child size	1			
Dishcloth	2			
Dishpan		1		
Drainer		1		
Dry mop	1			
Dustpan	1			
Iron, wood or plastic	1			
Ironing board		1		
Pail	1			
Soap, hand (See Housekeeping Supplies, Cleaning and Laundry.)				
Soap flakes, sample boxes	1	1	1	
Towels:				
Bath	1			
Dish	2			
Hand	2			
Washcloths	2			
Vacuum cleaner, 30" handle				1
Washer, approx. 16" × 16" × 24"				1
Wet mop, 30" handle	1			
Cooking and eating equipment, real, unbreakable:				
Baby bottle	2			
Cutlery: forks, knives, spoons, place settings	4			
Dishes: bowls, cups, saucers, small glasses, plates, place settings	4			
Food containers, empty	X	X	X	
Food, pretend	6		4	
Utensils: cake pan, colander, frying pan, kettle, ladle, large spoon, measuring cups and spoons, mixing bowls, pie pan, sauce pan, sieve	8	2	2	
Dolls, baby boy, girl, multiethnic, unbreakable, washable	4	2		
Doll play and equipment:				
Baby bottles	2			
Bed		1		
Buggy and stroller	1	1		
Clothes, assorted, male, female, baby, older	12	4	4	
Dishes, place settings		2		
House, open on sides, top removable			1	
House cooking utensils				6
House dolls: families, both black and white, bendable preferred, to use also with blocks, vehicles, sand/water play			4	4

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Doll house furniture and accessories			16	
Dress-up properties, male and female: aprons, belts, billfolds, blouses, dresses, hats, hose, jackets, jewelry, pants, purses, scarves, shawls, shoes, skirts, suitcase, ties, watches, wigs, supply accumulated	X	X	X	
Furniture for playhouse area, sturdy, unbreakable:				
Bed and mattress, big enough for child to curl up on	1			
Bed linens: blankets, pillow, sheets, spread	4	2		
Chairs:				
High chair with tray	1			
Rocking	1			
Straight	4			
Clothes rack and hangers		1		
Curtains, as desired	X	X	X	
Dresser or chest	1			
Hat rack		1		
Mirror, full-length, child height	1			
Radio		1		
Refrigerator	1			
Rug, if desired	X	X	X	
Sink	1			
Sofa		1		
Stove	1			
Table, to seat four children	1			
Telephone	1			
T.V. frame, scrounged	1			
Toilet training chair		1		
Office and School:				
Attaché case, scrounged	1			
Chalkboard		1		
Chalkboard eraser		1		
Desk and desk chair		1		
Paper pads	2	2	2	
Pencils and erasers	2	2	2	
Telephone (See Home Management and Family Living.)				
Typewriter, scrounged		1		
Playhouse, outdoor	1			
Puppets, family, hand or finger	4	2	2	
Repair and Yard Work:				
Carpentry apron	1			
Lawn mower, 24" handle			1	
Paintbrushes (See General Maintenance, Indoor/Outdoor.)				
Paint cans containing colored soapsuds	3			
Push broom		1		
Rake (See General Maintenance, Indoor/Outdoor.)				
Toolbox			1	
Tool kit		1		
Sewing Materials: buttons, cloth pieces, decorations (pieces of lace, ribbon, beads), large needles, rounded scissors, thread, yarn, scrounged	X	X	X	

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Transportation/Occupations: buy and scrounge				
Dress-up clothes: hats, uniforms, tools for a variety of occupations, such as bakers, bus drivers, carpenters, divers, engineers, fire fighters, air pilots, police officers, sailors, taxi drivers, train engineers, postal workers, construction workers	X	X	X	
Model sets: airport, camper, fire station, garage, space center, etc., with proportioned buildings, figures, furnishings, tools, vehicles			4	
People figures, proportioned plastic, rubber, wood, representing a variety of workers	6	3	3	
Puppets, representing different workers	4	2	2	
Snap train sets			2	
Traffic signs for air terminals, highways, railroad crossings, waterways		5		
Vehicles, large, sturdy, some rideable, some that carry blocks: cars, boats, planes, rockets, trains, trucks, tractors (See Building and Construction.)				
Vehicles, metal or plastic, small, wheeled, that fit unit blocks (See Building and Construction.)				

X LANGUAGE ARTS AND LITERATURE

Alphabet letters, moveable, sandpaper, tactile, in several sizes	300		300	
Books:				
Permanent collection of 30 or more, and circulating collection borrowed from library. Choose high quality children's books, look for multi-ethnic, non-sexist content. Topics to include:				
Adult activities				
Animals				
Child activities				
Community				
Fairy tales				
Fantasies				
Holiday				
Mother Goose				
Seasonal				
Tender topics - adoption, divorce, illness	X	X	X	
Easy to read books	X	X	X	
Picture books, including alphabet books and dictionaries	X	X	X	
Poetry to read aloud	X	X	X	
Resource books on such topics as biological science, community, crafts, cultures, family, geo-				

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
  First Year — A
Replacements and Additions
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Replacements and Additions
  Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES A	B	C	D
graphy, holidays, physical sciences, space science	X	X	X	
Camera for snapshots of children, etc.	1			
Cassette tapes (See Audiovisual Equipment.)				
Chalkboard, portable, with chalk and erasers	1			
Felt board and pieces: alphabet stories, familiar objects, etc.	1			
Films (See Audiovisual Equipment.)				
Filmstrips (See Audiovisual Equipment.)				
Games, simple, such as lotto and other picture games	4	2	2	
Language Master				1
Notebooks for dictated stories	3	3	3	
Perception cards, set	1			
Pictures and posters (See topics under Books.)	12	6	6	
Puzzles (See Building and Construction Materials.)				
Records (See Audiovisual Equipment.)				
Slides (See Audiovisual Equipment.)				
Talking book unit			1	
Typewriter, primary			1	
Writing materials: crayons, pencils, marking pens (See Creative Arts.)				

XI MATHEMATICS

SUGGESTED ITEMS	A	B	C	D
Abacus		1		
Attribute blocks, set		1		
Counters, unbreakable: animals, beads, blocks, buttons, cards, nails, napkins, etc., supply accumulated	X	X	X	
Cuisinaire rods, set			1	
Fraction manipulatives, wood or plastic: apple, candy bar, pie, etc.		3		
Food to cut and divide	X	X	X	
Measuring equipment, English and Metric:				
Dry, units	4	2		
Liquid, units	4	2		
Tape	1			
Rulers	2			
String, twine, rope (See General Maintenance, Indoor/Outdoor.)				
Thermometers:				
Cooking				1
Hand manipulated model	1			
Indoor/Outdoor	1			
Money, play, homemade	X	X	X	
Nesting toys, assorted blocks, boxes, dolls, units	2		2	
Number games	2	2	2	
Numerals, tactile in variety of sizes and materials	20		10	
Objects: any in environment to examine their properties, likenesses and differences	X	X	X	
Shapes, basic sets, tactile, unbreakable, variety of sizes and materials, supply accumulated	X	X	X	
Sorting containers, unbreakable: baskets, boxes, cans, glasses	3	2	1	
Timers, buy or scrounge, as needed for curriculum:				
Calendars	2			
Clocks:				
Alarm, hand wound	1			
Electric, wall	1			
Plywood, with geared, adjustable hands	1			
Egg timer		1		
Food timer		1		
Watch	1			
Weights, English and Metric:				
Standard pan balance		1		
Graduated cylinder balance			1	
Bathroom scale	1			
Kitchen scale	1			
Spring scale		1		

XII MUSIC

SUGGESTED ITEMS	A	B	C	D
Autoharp	1			
Dancing clothes: scarves, skirts, streamers, supply accumulated	X	X	X	
Records: permanent collection of quality children's records and access to others (See Audiovisual Equipment.)				
Record player, good but inexpensive (See Audiovisual Equipment.)				
Rhythm Instruments:				
Bells, variety: anklet, cow, wrist,				

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
melody set, supply accumulated	X	X	X	
Castanets	2			
Cymbals:				
Finger		2		
Large		1		
Drums, variety: snare, tom-tom, etc.	2		1	
Maracas	4			
Recorder, wind instrument			1	
Sticks, rhythm	12			
Tambourines	2			
Tone blocks, set		1		
Triangles		1		
Tuning fork			1	
Wood blocks		2		

XIII SCIENCE

SUGGESTED ITEMS	A	B	C	D
Air Experiments: Obtain as needed each year.				
Balloons	6	6	6	
Bellows		1		
Bicycle pump (See Apparatus for Physical Activity.)				
Bubble pipes	20			
Kite		2		
Squeeze bottles, supply accumulated	X	X	X	
Straws	24	24	24	
Tubing, 3' length	1		1	
Animals: Follow all public health and safety regulations, provide adequate food, medical care, shelter. Choose from:				
Birds	1	1		
Chickens		6-12		
Ducks		2		
Fish	4	4	4	
Gerbils (where permitted by law)		2+		
Guinea pigs		2+		
Hamsters	2+			
Insects, silk worms	3	3	3	
Mice		2+		
Rabbits	2+			
Rats			2+	
Snails	5			
Snakes			2	
Sponges, living			2	
Turtles	2			
Animal foods that are appropriate for any of the above	X	X	X	
Eggs and incubator	4-6		4-6	
Food and Gardening: Use of food in science is essential to a child's experiencing the changes of state in matter. (See also Health and Safety.)	X	X	X	
Aprons (See Creative Arts.)				
Children's cookbook	1		1	
Containers: bottles, cartons, flower boxes, flower pots, jars, etc., supply accumulated	X	X	X	
Cotton, box	1			

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Dirt box or dirt plot	1			
Fertilizer, lbs.	5			
Food:				
Natural foods, fruits, nuts, vegetables	X	X	X	
Packaged mixes and processed foods, pkg.	4	2	2	
Raw ingredients: flour, salt, soda, spices, sugar, etc., in tightly covered containers, one for each item	X	X	X	
Garden tools, child size: hoe, rake, spade, set	1	1		
Plants, cultivated and wild	X	X	X	
Seeds, collected from nature and purchased, supply accumulated	X	X	X	
Stakes and string or wire fencing	X	X	X	
Terrarium	1			
Watering cans or hoses	2	1		
Light and Heat:				
Binoculars, pair				1
Camera (See Language Arts and Literature.)				
Electricity: batteries, bulbs, buzzers, simple circuits, supply accumulated	X	X	X	
Flashlights	1		1	
Magnifying glasses, hand	2			
Magnifying glass on stand		1		
Microscope				1
Mirrors, unbreakable	2			
Prisms, assorted	2	1		
Liquids and Supplies:				
Liquids:				
Ice:				
Dry, bar	1	1	1	
Regular	X	X	X	
Oil, ½ pt. can	1			
Other liquids	X	X	X	
Supplies:				
Containers, plastic, supply accumulated	X	X	X	
Kettle	1			
Medicine dropper	2	1		
Paper:				
Blotting, odds and ends	X	X	X	
Filter, pkg.				1
Sponges	2	2	2	
Sprayer		1		
Squeeze bottles, supply accumulated	X	X	X	
Squirt bottles, for spraying, supply accumulated	X	X	X	
Mechanics and Physics: (See also Building and Construction Materials and Mathematics.)				
Incline planes	1	1		
Magnets, variety of shapes and sizes, and things to try to pick up	2	1	1	
Nails, nuts, bolts, screws (See Building and Construction.)				

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Nursery School Group

16-20 CHILDREN—AGES 3-5

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	A	B	C	D
Rubber bands, elastic (See Office Supplies and Record Keeping.)				
Siphon	1			
Take-apart equipment (donated): old clocks, typewriters, vacuum cleaners, etc., supply accumulated	X	X	X	
Wheels	4	1	1	
Minerals: rocks, stones, etc.	X	X	X	
(See also Building and Construction, Math, Music and Creative Arts.)				

XIV OFFICE SUPPLIES AND RECORD KEEPING

SUGGESTED ITEMS	A	B	C	D
Manila envelopes, 2 sizes	36	36	36	
Manila folders	36	36	36	
Marking pens, several colors	4	4	4	
Paper clips, 2 sizes, boxes	2	2	2	
Paper cutter		1		
Pencils	6	6	6	
Pencil sharpener	1			
Pins:				
Safety, box	1		1	
Straight, roll	1			
Rubber bands, assorted sizes, boxes	2	2	2	
Rulers	2			
Staplers and staples (See Creative Arts.)				
Stationery, letterhead and plain, 2 sizes, quire of each	10	10	10	
Tapes:				
Masking, roll	1	1	1	
Mystic, roll	1	1	1	
Transparent Scotch, rolls	2	2	2	
Transparent tape dispenser	1			
Thumbtacks, boxes	2	2	2	
Typewriter		1		
Writing paper tablets, ruled and unruled, in several sizes	8	8	8	
Xerox copier (access to)				
Yardstick	1			

XV TRANSPORTATION

For field trips and emergencies. Check local/State laws regarding insurance and licensing for carrying children in private car with and without school bus license.

SUGGESTED ITEMS	A	B	C	D
Private cars: (access to)				
Parent	4	4	4	
Staff	4	4	4	
Public transportation	X	X	X	
School bus, owned by school	1	1	1	
Station wagon, owned by school	1	1	1	

Neith E. Headley
Committee Chairperson, Elizabeth J. Hedges

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: A Kindergarten Group

20-24 CHILDREN—AGES 4-6

EDUCATIONAL EQUIPMENT AND MATERIALS FOR A KINDERGARTEN GROUP OF 20-24 CHILDREN - AGES 4-6

INTRODUCTION
I BASIC ENVIRONMENTAL EQUIPMENT
II HOUSEKEEPING EQUIPMENT AND SUPPLIES
III FIRST-AID AND HEALTH
IV AUDIOVISUAL SUPPLIES (SEE LANGUAGE ARTS)
V PSYCHO-MOTOR DEVELOPMENT
VI PERCEPTUAL DEVELOPMENT
VII REPRESENTATIVE PLAY AND SOCIAL AWARENESS
VIII ART AND CONSTRUCTION
IX LANGUAGE ARTS
X MATHEMATICS
XI MUSIC
XII SCIENCE
XIII SNACKS AND SPECIAL OCCASIONS
XIV RECORD KEEPING

Note: Items, quantities and priorities suggested on the following pages of this section are to be thought of as guides rather than inventories.

Because today's kindergarten children have been exposed to such an amazing amount of audiovisual stimulation they sometimes astound their elders by their fund of information and their seeming sophistication.

Many parents, administrators and even psychologists assume that, because of kindergarten children's current fund of information, former first grade and even more advanced challenges should now be introduced into the kindergarten program. Teachers who work with kindergarten children are aware of the fact that in spite of the children's apparent sophistication many of them tend to be bewildered and confounded by life. They often verbalize fluently but do not have any clear-cut concepts about that of which they are speaking. One of the most important services the kindergarten can perform for children is help them to sort out and mesh old and new learnings, i.e. help them to clarify and extend their concepts.

With these considerations in mind the equipment and materials list that follows is designed to aid adults in helping children develop the cognitive, psycho-motor, perceptual, and social skills that will help them to make the most of their native abilities.

Obviously the list is suggestive only. It is to be assumed that the geographic and cultural impacts of each school community as well as the composition of each kindergarten group will be factors in the selection of the specific equipment and materials that will best serve the needs of its children.

In helping children clarify and extend their concepts the kindergarten teacher should feel free to cut through and across great bodies of knowledge. No hard and fast demarcations of subject areas are intended in this listing. It is only for the sake of convenience and to make the general public aware of the fact that the kindergarten is an integral part of the elementary school that some of the items have been grouped under subject-matter headings.

For two reasons the many teaching-learning kits that are flooding the market have not been included: (1) in all probability the kindergarten child can learn as much, if not more, from coping with first-hand environmental challenges than he can possibly comprehend by being involved in contrived kit and work-book activities, and (2) to date there is no conclusive evidence to indicate that rigidly structured teaching in the kindergarten enhances either the quality of living or the proficiency of later performance.

In addition, and as substitutes for the items suggested in this listing, it is hoped that teachers will be ever attuned to the educational implications to be found both in immediate daily experiences and the never-ending supply of scroungeable materials. *Neith E. Headley*

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: A Kindergarten Group

20-24 CHILDREN—AGES 4-6

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES A	B	C	D
I BASIC ENVIRONMENTAL EQUIPMENT				
Block storage units, each 10 to 12 cu. ft.	2			
Bookcase, 9 to 12 cu. ft.	1			
Bulletin Boards:				
Cork, 20 to 30 sq. ft.	1			
Steel, baked enamel finish, 4-6 sq. ft.	1			
Chairs, adult size, seat height 17"	2			
Chairs, child size:				
Armchairs, 2 rocking, 2 straight, modern or wicker, seat height 12", for library	4			
Rocking, wooden or plastic, 10" to 12" seat height	1		1	
Straight, wooden or plastic, metal tubing, seat height 11", 12", 13"	24			
Chalkboard, green, 12 to 18 sq.'	1			
Clock, electric wall, Arabic numerals	1			
Cupboard units, total storage area 125 to 200 cu.'	2			
Desk, small, adult size, or table and a two-drawer file	1			
Draperies or blinds for windows, as needed	X	X	X	
Drinking fountain, slant stream, 27" basin height	1			
Fire extinguisher, 6 lb. model, flat bottom	1			
Floor covering:				
Carpet for ⅔ of area, indoor-outdoor type, yardage as needed	X			
Linoleum for ⅓ of area, yardage as needed	X			
Lockers, wooden, approx. 12" × 14" × 54"	24			
Mirror, approx. 15" × 45"	1			
Paper towel container	1			
Pictures and wall hangings, good quality	2	1	1	
Sand table, approx. 3' × 6' × 26" overall, box 10" to 12" deep, with cover and plastic liner	1			
Screens:				
Pegboard, 36" × 48" with removable feet		1		
Hinged unit, three panels, each 18" × 54"			1	
Soap dispensers for liquid soap	2			
Storage space unit for wood, 20" × 24" × 3½' long	1			
Tables:				
Library, plastic top, 36" diameter, 18" to 20" high	1			
Playhouse (See Representative Play and Social Awareness.)				
Serving, use finished plywood board 28" × 46" on top of workbench or covered sandbox	1			
Work, plastic top, non-reflecting surface, 30" × 30" and 18" to 21" high	6			
Toilet facilities:				
Lavatories, 28" high	2			
Toilet seats, 12" high	2			
Tool storage unit, wall hanging, with door, approx. 24" × 36" and 6" deep	1			
Wastebaskets, approx. 10" × 14" × 18" deep, with disposable liners	2			
Workbench, 24" × 42" and 26" high with 2 vises	1			
Xerox copier (access to)				
II HOUSEKEEPING EQUIPMENT AND SUPPLIES				
Brooms:				
Corn, straight, light weight, adult size	1			
Push, long handle	1			
Brushes:				
Counter style, 12" handle	1			
Hand/scrub style, 5"	2	2	2	
Whisk broom, small	1			
Cleanser, scouring powder, cans	4	4	4	
Dishpan, plastic	1			
Dust cloths	2	1	1	
Dustpan, rubber or rubber edged	1			
Mop, sponge, small, light weight	1			
Pails or buckets, plastic, flat bottom, 2 qt. size	2			
Soap or detergent, plastic containers	3	3	3	
Sponges, 1" × 3" × 4" or in animal shapes	2	2	2	
Towels, paper, carton of 3,000	5	5	5	
Vases or bowls with flower holders	3	1		

III FIRST-AID AND HEALTH MATERIALS

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Cots and cotton blankets, each	2			
First-aid cabinet, stocked in accordance with individual school regulations or with:	1			
Band-Aids, boxes	2		2	
Gauze, sterile, boxes	2		2	
Ice pack		1		
Merthiolate, Tincture of, or comparable disinfectant, bottle	1		1	
Soap:				
Green, liquid, gal.	1		1	
Medicated, bars	2		2	
Tweezers	1			
Paper:				
Handkerchiefs, small hospital size, boxes	12	12	12	
Toilet, rolls	36	36	36	
Towels (See Housekeeping Equipment and Supplies.)				
Rugs, resting, if floor is uncarpeted, washable, 27″ × 48″ or towels from home	24			

IV AUDIOVISUAL SUPPLIES (SEE LANGUAGE ARTS.)

V PSYCHO-MOTOR DEVELOPMENT

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Balls, rubber, 4″, 6″, 8″, 10″ in diameter	4	2	2	
Climbing rope, 8′			1	
Climbing tower, approx. 4′ × 4′ × 7′ high, with 4 cleated boards approx. 8″ × ¼″ × 4′	1			
Hollow blocks (See Art and Construction.)				
Ladders:				
Rope, wooden rungs with snap hitch unit, 4′ to 6′		1		
Wooden, approx. 6′	1			
Planks, 6″ × ¾″ × 5′, free from slivers	4			
Recordings, suggesting gross and fine muscle activities	2	1	1	
Sandbox, out-door, approx. 8′ × 8′ × 14″ deep, with cover			1	
Skipping ropes, solid wooden handles	3			
Slide, wooden trough, 8′ stand			1	
Swings:				
Rope, canvas or air cushion seat, preferably hung from tree, approx. 10′ suspension	1			
Two-swing unit, metal standard, 10′ high		1		
Teeter-totter, 9′ triple cleated plank, 18″ sawhorse			1	
Tricycle, 20″ pedal wheel, 10″ rear wheels, chain drive		1		
Tricycle trailer, two wheel			1	
Wagon, rubber tires, wooden box, 16″ × 34″ × 3½″ deep		1		
Wheelbarrow, rubber-tired, wooden box, approx. 14″ × 24″ × 8″ high	1			

VI PERCEPTUAL DEVELOPMENT

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Beads, wooden, ½″ cubes and assorted shapes, box of 1,000	1			
Bead counting frame (See Mathematics.)				
Bead laces	12		6	
Counting rods (See Mathematics.)				
Games, matching:				
Card: animals, geometric shapes, flowers, vehicles, etc.	4	1	1	
Block: attribute, design, domino, number, property, etc.	4	1	1	
Frame: bingo and lotto type with birds, flowers, food, clothing, zoo animals, etc.	4	1	1	
Flannel board, 18″ × 36″	1			
Flannel board figures, 50 items, set	1			
Geometric solids, wooden, 3″ units, approx. 6 items, set			1	
Magnetic board, 18″ × 36″	1			
Magnetized figures, 50 items, set	1			
Mechanical board: bolts, nuts, locks, etc.	1			
Nest of rings or boxes, 6 to 8 items	1			
Olfactory materials: spices, foods, greenery, etc., in plastic bottles with perforated, tightly sealed lids	X	X	X	
Parquetry blocks, 1″ unit, 16–36 in set, some with pattern cards	2	1		
Pegboards, 12″ × 12″	4			
Pegs, hardwood, 1/8″ diameter, 2″ long, box of 1,000	1			
Puzzles:				
Wooden, 9 to 16 pieces	8	2	2	
Wooden, 17 to 27 pieces	2	1	1	
Sound cylinders, approx. 3″ high, 2″ diameter, set of 5	2			
Tactile materials: sandpaper, cloth, wood, metal, sponge, etc., in container	X	X	X	
Taste materials: sugar, flour, salt, fruit juices, etc., in plastic containers with removable lids	X	X	X	
Weighing and measuring items (See Mathematics.)				

VII REPRESENTATIVE PLAY AND SOCIAL AWARENESS

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Blocks (See Art and Construction.)				
Block accessories:				
Figures, 3D animals and people, 3″ to 8″ tall	5	2	2	
Vehicles and machines: trucks, trains, planes, boats, hoists, 3″ to 12″ in length	8	2	2	
Vehicles and machines large enough to carry loads of blocks	2		1	
Dolls and doll play:				
Carriage or stroller, 24″ to 27″ handle, sturdy	1			

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: A Kindergarten Group

20-24 CHILDREN—AGES 4-6

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Clothes with variety of fasteners	12	4	4	
Dolls, soft, unbreakable, 10" to 40", multi-ethnic, male and female	2	1	1	
Dress-up properties, both men's and women's, suggestive of roles or careers, as needed. Choose from Air pilot, Astronaut, Bus driver, Cowboy, Doctor, Farmer, Father, Florist, Miner, Mother, Nurse, etc.	6	4	2+	
Play accessories:				
Gloves, goggles, hats, jewelry, shoes, ties, etc.	4	2	2+	
Rack and hangers for dress-up clothes, 40" uprights with 36" connecting pole	1			
Trunk for storing accessories, 30" × 14" × 15"		1		
Office supplies for representative play:				
Dictation pads	2	2	2	
Pencils	2	2	2	
Printing set, stamp type		1		
Tape recorder or old dictaphone		1		
Telephone, old, from telephone company	1			
Typewriter, old		1		
Store and storekeeping supplies for representative play:				
Cash register	1			
Containers: cereal and frozen food boxes, food cans, etc.	12	4	4+	
Plastic food items	4	2	2	
Play money (See Mathematics.)				
Shopping bags	2	2	2	
Shopping cart	1			
Playhouse cleaning equipment:				
Broom, 36" in height	1			
Carpet sweeper that really picks up dirt		1		
Clothes bar, 30" to 36" in height			1	
Dust mop, 36" handle	1			
Dustpan and small counter brush	1			
Laundry set:				
Old fashioned tub and wash board	1			
Washer and dryer unit, 12" × 16" × 24"		1		
Sponge	1			
Sponge mop, 36" handle	1			
Playhouse furniture and equipment:				
Bed, wooden, approx. 28" × 14" × 10" high	1			
Cupboard, wooden, approx. 22" × 20" × 40" high	1			
Cutlery, aluminum, 4" to 5" long, place setting	4			
Dishes:				
Cooking set, 6 to 8 items	1			
Tea set, unbreakable	1			
Iron, wood or metal, non-electric	1			
Ironing board		1		
Milk carrier and bottles, plastic	1			
Refrigerator, wooden, approx. 12" × 24" and 36" high	1			
Rocking chairs, 10" - 12" seat height (See Basic Environmental Equipment.)				
Sink, wooden, approx. 12" × 27" and 24" high with plastic pan	1			
Stove, wooden, approx. 12" × 16" and 24" high	1			
Table and two chairs, table 18" to 20" high, chairs to slide under	1			
Telephone (See Language Arts.)				
Puppets:				
Hand, rubber or cloth, human and animal figures	4	2		
Finger, rubber or cloth, human or animal figures	4		4	
VIII ART AND CONSTRUCTION				
Alcohol, denatured, gal.	1		1	
Ball bearing clips, 2½" × 2 3/8", for easel	8			
Blocks:				
Counting cubes (See Mathematics.)				
Hollow, 5½" × 11" × 11", basic unit	24			
Interlocking, large floor		60		
Parquetry (See Perceptual Development.)				
Unit floor, 3" × 3" × 1½" basic unit, assorted shapes and sizes	350	200	200	
Brushes, paint:				
Flat, ¾" × 1½" spread	3			

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Round, for easel, 1¼" bristles, 9" handle	12		6	
Chalk:				
Colored, sticks	12		12	
White, dustless, sticks	12		12	
Chalkboard (See Basic Environmental Equipment.)				
Clay:				
Powder, lbs.	20	20	20	
Semi-moist, lbs.	100	100	100	
Clay containers, polyethylene pails or 5 gal. crocks, with tight fitting covers	3			
Cloth:				
Burlap and/or heavy weight mesh for stitchery, yds.	2		2	
Material, like glazed chintz or paper cambric, yds.	2	2	2	
Conductor's punch	1			
Cotter pins, assorted sizes, boxes	2		2	
Crayons:				
Hexagonal, 4" length, assorted colors, gross	1	1	1	
Regular, assorted colors, box	1	1	1	
Easels:				
Double, adjustable height, aluminum		1		
Double, adjustable height, wooden	1			
Erasers, chalkboard	2			
Felt or flannel board (See Perceptual Development.)				
Felt pieces, 9" × 12", pkg. of 12	1		1	
Flour, 5 lb. sack for play dough, paste, cooking	1	1	1	
Food coloring, red, yellow, blue, bottles	1	1	1	
Glue, all purpose, tubes	2	2	2	
Modeling boards, plywood, 12" × 18"		8		
Mounting board, 22" × 28", assorted colors, sheets		12		
Needles, #20 tapestry, pkg. of 6	2		2	
Paint:				
Enamel, white, qt. with basic enamel tinting set	1			
Finger, cream, qt.	4	4	4	
Finger, powder	8		8	
House, flat, qt.	1		1	
Poster, powder, lb.	6	6		
Poster, thick, liquid, qt.	12		12	
Paint jars, plastic with covers	16+			
Paper:				
Brown, wrapping 45 lb. roll with dispenser	1			
Construction, colored, 9" × 12", pkg. of 50 sheets	20	20	20	
Construction, colored, 12" × 18", pkg. of 50 sheets	4	4	4	
Crepe, 20" × 7½', pkgs.	2	2		
Frieze, one side glazed, other side rough, 24" × 180', roll	1			
Manila for drawing, 12" × 18", reams	4	4	4	
Poster, colored, 9" × 12", pkg. of 100 sheets	20		20	
Poster, colored, 12" × 18", pkg. of 100 sheets	4	4	4	
Tagboard, medium weight, 24" × 36", sheets	10		10	
Tissue, 20" × 30", pkg. of 24 sheets	4	4	4	
News, unprinted, 18" × 24", pkg. of 100 sheets	15	15	15	
Paper bags, approx. 8" × 14"	24	24	24	
Paper clips, box of 100	2	2	2	
Paper cutter, 12" blade	1			
Paste, semi-liquid, gal.	1	1	1	
Paste jars, 2" diameter, 1½" deep, with covers	10			
Pastesticks, hard wood, pkg. of 500	1		1	
Pencils, soft, thick lead, without erasers	6	6	6	
Pencil sharpener	1			
Pins:				
Safety, medium size, box of 100	1		1	
Straight, common, roll of 300	1			
Plasticine, single color, lbs.	5	5	5	
Roving, heavy rug filler, hanks	3			
Rubber binders, assorted sizes, box of 100	1	1	1	
Rulers (See Mathematics.)				
Salt, for play dough and cooking, box	1	1	1	
Sand:				
Indoor sandbox, white, fine, lbs. or cornmeal or sawdust in sufficient amounts	200			
Outdoor sandbox, coarse, lbs.			800	
Sand toys: spoons, measures, molds, etc.	8		4+	
Sandpaper, grades 000 to 3, pkg. of 10 sheets	1			
Scissors:				
Adult size, pair	1			
Children's, forged steel, majority semi-pointed, 2 or 3 pointed, 1 or 2 left-handed and 1 plastic	12		6	
Shellac, clear, qt.	1		1	
Stapler	1			
Staples, box	1	1	1	
Starch for mixing finger paint, boxes	2	2	2	
String, carpet warp, colored, ½ lb. spool	1			
Tapes, adhesive:				
Masking, ½" wide × 60 yds., rolls	2	2	2	
Mending, Scotch permanent, transparent, ½" wide × 60 yds., rolls	2		2	
Mystic, cloth with plastic finish, 3" wide × 108", roll	1		1	
Thread, black and white, #60, spools	2			
Thumbtacks, solid heads, 7/16" length, box of 100	3		3	

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: A Kindergarten Group

20-24 CHILDREN—AGES 4-6

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	QUANTITIES			
	A	B	C	D
Tools for Woodworking:				
Bits, ¼", ½", and ¾"		3		
Brace, adult size, 1½ lbs.		1		
Coping saw, wooden handle			1	
Coping saw blades			6	
Hammers, 13 oz., 16 oz., flat head with claws	2			
Hand drill and drill sets	1			
Nails, 3d, 6d, 7d, lbs.	5	5	5	
Pliers with wire cutter	1			
Saws, crosscut, 14" blade, 18" blade, 8 teeth per inch	2			
Screwdrivers, 8", 12", regular and Phillips	2			
Screws, steel, flat head, assorted sizes, box of 50	1			
Try square, 8" blade		1		
Turpentine, plain, qt.	1	1	1	
Wood:				
Mill ends, flat, any soft wood, cu. ft.	6	6	6	
Lumber footage, ¾" × 3', from 2" to 8" wide, pieces	30	30	30	
Discs, ¾" thick, 5" to 6" diameter, units	8	8	8	
Dowels, 3' lengths, ½" and ¾" diameter, units	8	8	8	
Yarn, red, green, yellow for stitchery, wrapping and collages, balls and scrounged	4	4	4	

IX LANGUAGE ARTS

SUGGESTED ITEMS	A	B	C	D
Books:				
Picture-Story, in classroom, and access to library	30	10	10	
Reference, in classroom, and access to library	5	3	2	
Films, 16mm. and 8mm. (access to)				
Film screen, approx. 3' × 4'	1			
Flannel board with letters, shapes and story telling figures	1			
Games: completion, hidden parts, and story sequence, picture and lotto types	4	2	2	
Frames, sorting by initial or rhyming sounds	2	1	1	
Letters of the alphabet, one upper, one lower case, wood, foam rubber, or plastic with magnetic insets, set	2			
Listening post		1		
Projectors:				
8mm. and 16mm. movie (access to)				
Filmstrip and slide (access to)				
Junior or access to			1	
Puppets (See Representative Play and Social Awareness.)				
Recordings, stories and songs	10	4	2	
Representative play media (See Representative Play and Social Awareness.)				
Pictures:				
Framed, without glass or with non-reflecting glass	2	1	1	
Poster	2	2	2	
Well mounted, current	30	10	10	
Slides and frames (access to)				
Tape recorder	1			
Tape reels or cassettes for listening	4	1	1	
Tape reels or cassettes for recording	2			
Telephones:				
Wooden, with dial or push button mechanism	2			
Intercom unit with wires and batteries				1
View Master		1		
View Master frames or reels		4	2	

X MATHEMATICS

SUGGESTED ITEMS	A	B	C	D
Bead counting frame, approx. 18" × 24"	1			
Beads (See Perceptual Development.)				
Calendar (See Basic Environmental Equipment.)				
Clocks:				
Alarm, electric		1		
Alarm, hand wound	1			
Plywood with gear operated hands	1			
Plywood with manually operated hands	2			

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Wall (See Basic Environmental Equipment.)				
Counting cubes, 1" × 1" × 1"	36			
Counting rods, 10 units in a set, basic unit, 1" × 1" × 3"	2			
Games: Bead and number cards, card matching, numeral to numeral, numeral to numbers, dominoes, lotto matching sets, number bars, number tray, scoring games such as adhesive ball darts, ten pins, ring toss, basketball, shake the dice and play, spin the dial and play and walk-on number line	6	2	2	
Measures:				
Linear:				
Meter stick, 90 centimeters, approx. 1 yard	1			
Ruler, 30 centimeters, approx. 12"	1			
Ruler, 12" with ½" and 1" markings	1		1	
Tape measure, centimeter and inch markings	1		1	
Yardstick	1			
Liquid and Dry: tsp., ¼, ½; tbls.; cup, pt., qt., gal.	8			
Weights (See Scales, below.)				
Minute Minders:				
Clock type		1		
Hourglass type	1			
Stopwatch				1
Numerals, felt, wood, or plastic with magnetized insets, sets	2	1		
Pegboards (See Perceptual Development.)				
Play money, commercial or child-made, pkg.	1			
Scales:				
English, sliding attachment for accurate values		1		
Mathematical balance	1			
Pan balance	1			
Platform, with height measure attached (access to)				
Spring, hanging			1	

XI MUSIC

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Books: musical games, rhythms, songs	6	2	2	
Instruments:				
Autoharp, 12 bar		1		
Bells, sets	1			
Chinese tom-tom			1	
Cymbals		2		
Drums:				
Barrel	1			
Hand snare			1	
Jingle clogs	4			
Maracas			4	
Piano, midget, upright or spinet	1			
Recordings: music appreciation, musical games, rhythms, songs, and stories	8	4	4	
Record player, portable	1			
Needles:				
Long-life, 1,000 to 10,000 play per needle	1			
Sapphire-tipped, lifetime				1
Rhythm sticks	12			
Tambourine	1			
Tape recorder (See Language Arts.)				
Tape reels or cassettes for recording and listening (See Language Arts.)				
Tone blocks	2			
Triangle	1			
Xylophone, wooden	1			

XII SCIENCE

SUGGESTED ITEMS	QUANTITIES A	B	C	D
Ant farm, approx. 8" × 12" × 2"			1	
Aquarium, 10" × 18" × 14" high	1			
Beehive, window model, approx. 18" × 12" × 4"			1	
Cages:				
Animal, 10" × 18" × 14" high, all metal with exercise wheel and water bottle	1			
Animal, 36" × 36" × 36", wooden frame, removable metal tray		1		
Bird, hanging		1		
Cocoons, butterfly, moth	3	3	3	
Cooking equipment: aprons, bowls, bread, pie and cake pans, cookbook, cookie sheet, cutlery, pitchers, sauce pans and cooking ingredients, as needed (See also Snacks and Special Occasions.)	X	X	X	
Electrical kit, batteries, bells, switches, wires, bulbs		1		
Food for:				
Chickens, gerbils, hamsters, mice, etc., lbs.	5	5	5	
Fish, turtle, bird, etc., as needed	X	X	X	
Garden tools, junior size but sturdy, steel, 36" handles, set	1			
Globe, simple, 9" diameter or larger	1			
Hose, ½" diameter, 36" long, for siphon		1		
Hot plate and oven (See Snacks and Special Occasions.)				
Jars, clean, plastic or glass, with covers, 6 oz. to 1 qt.	6	2+	2+	
Kaleidoscope		1		
Level			1	
Magnets:				
Bar	1			
Horseshoe	1			
Ring, plastic coated, 1" diameter	6		6	
Spot, ¼" × ¼" × ¼", set in plastic	12		6	
Magnifying glass, 3" to 4" in diameter, with handle	1			

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

A Kindergarten Group

20-24 CHILDREN—AGES 4-6

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS	A	B	C	D
Measuring units (See Mathematics.)				
Pets: (Consult local health regulations.)				
Baby chicks		6-12		
Canary		1		
Ducks		2		
Hamsters			2+	
Hen, setting				1
Geese			2	
Gerbils	2+			
Goldfish	5			
Parakeet			1	
Rabbits	2+		2+	
Turtles:				
Garden and shore variety	2	2	2	
Pet store variety, red ear, Japanese	2		2	
White mice or white rats		2++		
Plants	4	2	2	
Plastic bags, 3" × 5" to 12" × 15"	24	24	24	
Prism	1			
Scales, English (See Mathematics.)				
Syringe, large bulb for watering plants		1		
Terrarium, 10" × 18" × 14" high		1		
Thermometers, indoor/outdoor, large figures, red indicator and a hand operated model	2			
Watering cans, 1 qt., long spout, heavy flat base	2			
Water table — sandbox, plastic dishpan, or baby's bathtub can be used	1			

XIII SNACKS AND SPECIAL OCCASIONS

A petty cash fund of a stipulated amount ($15.00 to $50.00) or a write-in bill form should be available for the purchase of special occasion, emergency and "best buy" items.

SUGGESTED ITEMS	A	B	C	D
Birthday ring or cake, wooden or plastic	1			
Cooking equipment (See Science.)				
Cutlery:				
Forks, small, sturdy plastic	48		36	
Knives, two for cutting, four for spreading	6			
Spoons:				
Mixing	2			
Serving	2			
Tablespoons	2			
Teaspoons, small, sturdy plastic	48		36	
Electric hot plate and oven or access to	1			
Flag, national, approx. 2' × 3'	1			
Paper service:				
Cups, 5 oz. to 6 oz., pkg. of 100	20	20	20	
Napkins, plain, cocktail size, pkg. of 250	5	5	5	
Plates, 6" in diameter, pkg. of 100	3	3	3	
Straws, drinking, pkg. of 500	2	2	2	

XIV RECORD KEEPING

SUGGESTED ITEMS	A	B	C	D
Anecdotal note cards to fit desk-top file drawers	200	200	200	
Attendance sheets	200			
Desk-top file, four drawer, wooden	1			
File, free standing, metal, 3 or 4 drawers		1		
Forms for parent-teacher conferences	200			
Health and general information cards	200			
Portfolios for children's work	30	30	30	
Progress sheets for cumulative records	200			

Geneva A. Ross and Mary Ann Lewis
Committee Chairperson, Geneva A. Ross

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: Early Elementary School Groups

AGES 6-10

INTRODUCTION
I BASIC ENVIRONMENTAL EQUIPMENT
II BASIC EXPENDABLE MATERIALS
III HOUSEKEEPING EQUIPMENT AND SUPPLIES
IV HEALTH AND FIRST AID
V PSYCHO-MOTOR EQUIPMENT
VI AUDIOVISUAL MATERIALS
VII ARTS AND CRAFTS
VIII LANGUAGE ARTS
IX MATHEMATICS
X MUSIC
XI SCIENCE
XII SOCIAL STUDIES—SOCIAL AWARENESS
XIII RECYCLABLE MATERIALS

Note: Items and quantities suggested on the following pages of this section are to be thought of as guides rather than inventories.

Although each child is unique and grows at his own rate and in his own way, some common characteristics of children at various age levels give valuable clues for the appropriate selection of equipment and supplies.

Children in this age group, the "Six-to-Tens," have a strong desire to be involved in everything—including plans, activities, and discussions. Acceptance by their peer group at all times is very important to them; they want to feel that they "fit in." They engage in play with great seriousness and concentration. Through play, children are provided an opportunity to make many discoveries about the nature of materials and to form concepts about weight, size, texture, softness, hardness, plasticity, transparency, etc.

PHYSICALLY, the "Six-to-Tens" are almost constantly in motion, so they need full opportunity to develop body control, strength, and endurance. They enjoy vigorous and boisterous individual and group play that involves the use of the whole body such as running, jumping, climbing, kicking, tumbling, throwing, catching, and stunting. Dramatic and rhythmical activities are essential for proper development and are usually included in their favorite activities. Organized games involving team play are popular among children of this age group who are willing to practice in order to perform adequately the skills needed for these games.

SOCIALLY AND EMOTIONALLY, the "Six-to-Tens" are loyal to each other. What a child eats, does, says, wears, and plays is often determined by what his friends eat, do, say, wear and play. They show an increasing interest in other people, places and events. They can be law-abiding and often exhibit the desire to be needed and useful. A sense of fair-play is developing. Many of these children need help in developing an "I-can-do" attitude with a real sense of "know-how."

INTELLECTUALLY, the "Six-to-Ten" interests are expanding rapidly to include adventure, facts about animals, mechanical devices, mystery, magic, money, games, sports and a variety of other topics. They are still engaging in imaginative play and are intrigued by fantasy, but are becoming more interested in discerning fact from fantasy. Since they still deal more readily with the concrete than with the abstract, their learning activities should include manipulative materials whenever possible to assist in concept formation. They learn particularly well through their senses and therefore should be provided with many multisensory learning materials and activities. Most children in this age group like to work hard and will tackle anything. Many of them have the ability to cope independently with the majority of their problems. They are progressing in their ability to consolidate their experiences and ideas into coherent concepts, which enable them to think and act more effectively on their own.

Geneva A. Ross

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Early Elementary School Groups

AGES 6-10

IMPORTANT: To accommodate planning for the varied kinds of grouping characteristic of a number of schools for this age level, in the following listing two sets of quantities are suggested: one for a classroom of 20-30 children (usually taught by a single teacher), another for a "pod" or large-area grouping of 30-60 children (usually taught by a team of teachers). Creative teachers will extend and/or delete items on the lists in order to include only materials appropriate to their needs.

SUGGESTED ITEMS AND QUANTITIES*

I BASIC ENVIRONMENTAL EQUIPMENT

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
2	Bookcases or shelves to meet needs	4
4	Bookends, pairs	6
1	Bulletin board, chalk on one side, bulletin	4
	board on the other	4
2	Cabinets, storage, 73" × 36" × 15"	4
	Chairs, adult size:	
1	Rocker	1
2	Straight	3
	Chairs, child size:	
2	Rocker	6
30	Straight	45-60
	Chalkboards:	
1	Movable	1
1	Stationary	1
2	Chart holders	4
1	Clock, wall	2
	Flags:	
1	State	1
1	United Nations	1
1	United States	1
1	Mirror, full length	2
1	Sink	2
1	Soap dispenser, liquid	2
2	Storage bins, for blocks and other supplies	2
10-14	Tables, adjustable, to vary according to need: trapezoid, round, oblong	12-24
1	Towel dispenser	2
2	Wastebaskets	4
X	Window stick, where needed	X

II BASIC EXPENDABLE MATERIALS

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
1	Carbon paper, box	1
2	Chalk, yellow, dustless, boxes	4
12	Chalkboard erasers	16

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
3	Chart tablets, large, ruled for experience charts	4
2	Eyelet punches	3
2	Eyelets, boxes	3
4	Fasteners, paper, 1", ¾", box of 100	8
2	Gummed labels, boxes	3
2-6	Lettering pens	2-6
2	Markers, felt tip, set of 8 assorted colors	4
	Paper:	
6	Duplicating, reams	6
1	Master copy for duplicators, box	1
8	Story, 12" × 18" — plain space at top for illustrations and ruled lower half for story, reams	10
2	Typing, reams	2
	Writing:	
2	8" × 10½" with ½" rulings, reams	3
2	8" × 10½" with 3/8" rulings, reams	3
2	9" × 12" with 1" rulings, reams	2
2	9" × 12" without rulings, reams	3
4	Paper clips, box of 100	10
2	Pencil erasers, soft rubber, doz.	3
	Pencils:	
3	Beginners, #308, Dixon, for first year, doz.	5
3	Laddie, #304, Dixon, for second year, doz.	5
4	No. 2, for third year, 1 doz.	6
2	Reinforcements, box of 200	3
2	Rubber bands, 4 oz., box of assorted sizes	4
1	String, ball	2
4	Suspension rings, 1", 1½", 2", box of 100	5
	Tagboard:	
3	Manila, 12" × 18", pkg. of 100 sheets	4
1	White, 12" × 18", pkg. of 100 sheets	2
	Tapes, adhesive:	
2	Masking, rolls	5
1	Mending, box	1
4	Scotch, magic, transparent, ½" × 700" with dispenser, rolls	4
3	Thumbtacks, boxes	4

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*Estimates on expendable items are based on a single school year's consumption.

III HOUSEKEEPING EQUIPMENT AND SUPPLIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	Brooms:	
1	Corn, light weight, straight, adult size	1
1	Push, long handle	1
	Brushes:	
1	Counter style	2
4	Hand scrub	6
2	Buckets, flat bottom	3
4	Cleanser, cans	6
1	Dishpan, plastic	2
1	Dustpan	2
X	Lunch supplies, where necessary	X
1	Mop, sponge	1
	Pins:	
1	Safety, box of 100	1
1	Straight, roll of 300	1
1	Sink strainer	1
	Soap:	
2	Flake or granule, box	4
1	Liquid, gal.	2
3	Sponges	4-6
5	Towels, paper, case of 3,000	8
	Wastebasket (See Basic Environmental Equipment.)	

IV HEALTH AND FIRST AID

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	Items available in Nurse's Office or Central Supply Area	
	or	
1	First-aid cabinet stocked in accordance with individual school regulations	1
	or	
2	Band-Aids, boxes	3
1	Gauze, sterile, roll	2
10-12	Handkerchiefs, paper, boxes	12-18
1	Merthiolate, Tincture of, or bottle of comparable disinfectant	1
2	Soap, medicated, bars	2
1	Tweezers	1
2	Blankets	3
1	Cot	2

V PSYCHO-MOTOR EQUIPMENT

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	Balls:	
	Indoor/outdoor, roll and kick, inflated:	
3	13" diameter, for younger children	4
3	10" diameter, for older children	4
	Push and toss beach balls, latex:	
3	18" diameter	3
3	24" diameter	3
	Toss and catch, rubber:	
3	7" diameter	7
3	8" diameter	4
3	Throw, bat and catch, cork center, scuff proof cover	6
2	Bats, small size, for children 8-10 years	4
6-10	Bean bags	8-10
1-2	Climbing apparatus, indoor/outdoor, for movement exploration	2-3
8-10	Hoops	8-12
1	Horizontal bars, set	1
1	Horizontal ladder	1
	Jump ropes:	
4-6	Rope for a single child	10-12
1-2	Rope for groups of children	2-3
2-4	Ring toss sets	4
2	See-saws	3
1	Slide	1
3	Swings	3
4-8	Tires, old automobile, bicycle, airplane	8-12
1	Traveling rings, set	2
	Tumbling mats, 4' × 6' (access to)	
1	Turning bar	1
1	Walking beam or board with cleats on ends	3

VI AUDIOVISUAL MATERIALS

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
2	Alphabets, manuscript and cursive letters	4
	Art items for children to enjoy:	
2-4	Carvings	3-6
4-6	Ceramics	5-7
3-5	Mobiles	3-5
40-60	Books, good quality and access to library	50-75
1	Cassette recorder	1
	Cassettes:	
3-6	For listening and access to others	4-8
2	For recording	4
X	Charts	X
	Films (access to)	
	Filmstrips (access to)	
2	Filmstrip viewers	3
	Globes:	
1	Large	1
1	Project	1
1	Relief	1
1	Simplified	1
	Listening station equipment (See Music.)	
	Maps:	
1	State and community	1
1	U.S.A., simplified	1
1	World, simplified	1
18-36	Pictures, mounted	24-48
3-8	Prints, reproductions of fine paintings	4-10
	Projectors: opaque, overhead, micro, slide/filmstrip (access to)	
	Radio (access to)	
1	Record player	1
8-12	Records and access to others	8-12
1	Screen	1
	Slides (access to)	
1	Tape recorder	1
	Tapes:	
4-8	For listening	6-10
2	For recording	4
	Television (access to)	
X	Textiles, assortment	X
2	View Masters	2
5-10	View Master reels	5-10

SUGGESTED
EDUCATIONAL
EQUIPMENT AND
MATERIALS FOR:

Early Elementary School Groups

AGES 6-10

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	VII ARTS AND CRAFTS	
	Blocks, counting, table, assorted shapes and sizes (See Mathematics.)	
	Brushes:	
12	1/4" bristles, 12" and shorter handles	24
12	1" bristles, 12" and shorter handles	18
1	Carpet warp, 1/2 to 1 lb. spool	2
1	Chalk, non-oil base, assorted colors, box of 144	2
25	Clay, mixed, 1 lb. pkg.	50
	Cloth:	
2	Burlap, yds.	9
1	Felt, pieces for applique work, pkg.	3
3	Meshed, for stitchery, yds.	4
2	Muslin, unbleached, yds.	6
6	Contact, self-adhesive plastic, yds.	12
12-18	Containers, 1/2 pt. or pt., plastic, with covers, for paint	18-24
	Crayons:	
15	Big, mixed colors for Grade 1, box of 8	20
15	Regular, mixed colors for Grades 2 and 3, box of 8	20
2	Design cubes, set	4
2	Detergent powder, box	3
1	Dry mount press	1
	Easels:	
3	Standing	4
6	Table	8-12
1	Floor blocks, large building set (See also Mathematics.)	2
1	Garbage can, plastic, with cover and liner, for clay	1
	Glue:	
1	Elmer's, white, gal.	1
1	Rubber cement, pt.	2
1	Semi-liquid paste, gal.	2
1	Laminator, 12", automatic	1
2	Laundry starch, liquid, for making finger paint or paper-maché, gals.	4
5	Looper looms	8
7	Loops, large, in assorted colors, pkgs.	10
4	Muffin tins for use as paint containers, 6 places per tin to hold covered paint cups	6
	Needles:	
2	For crewel and embroidery, pkgs.	4
4	Large eye, pointed, 3" and 5", for weaving, pkgs.	6

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
2	Oilcloth for weaving, yds.	3
	Paint:	
6	Enamel, pt. size, in red, orange, yellow, green, blue, brown, white	8
6	Finger, 1 qt. jars, assorted colors	12
3	House, flat, colors as needed, poster paint and shellac can be substituted, qts.	3
8	Poster, 1 qt. jars, assorted colors	10
12-16	Powder, in *red*, *yellow*, green, *blue*, *black*, *white*, brown, (greater quantities of the italicized colors), 1 lb. boxes	18-24
1	Remover, qt.	1
	Paper:	
5	Construction, 12" × 18", pkg. of 100 sheets, assorted colors	10
3	Corrugated, 4' × 25', roll, assorted colors	5
2	Crepe, flame resistant, 20" × 7½', pkg.	2
4	Finger paint, 16" × 22", pkg. of 100 sheets	6
6	Manila, 9" × 12", ream	10
3	Manila, 12" × 18", ream	6
1	Mural, 36" wide, roll	2
5	Newsprint, 9" × 12", white and assorted colors, pkg. of 100 sheets	8
4	Newsprint, 18" × 24", pkg. of 100 sheets	6
3	Poster, 9" × 12", pkg. of 100 sheets	6
2	Poster, 12" × 18", assorted colors, pkg. of 100 sheets	5
6	Project paper, rolls, red, orange, yellow, green, blue, white, brown, black	8
60	Paper bags, assorted sizes	75-100
	Paper cutters:	
	25" (access to)	
1	12"	1
100	Paper plates, assorted sizes	300
10	Paper tissues, box of 200	20
	Pegboard and pegs (See Mathematics.)	
	Pencils (See Basic Expendable Materials.)	
1	Pencil sharpener	2
1	Project paper holder, 8 roll type	1
	Scissors:	
4	Left-handed, some blunt, some sharp points	6
20	Right-handed, some blunt, some sharp points	30
1	Shears	2
1	Spirit duplicator	1

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	Staplers:	
	Longarm or reach, 12" or more (access to)	
1	Standard	2
1	Small	2
2	Staples, assorted sizes, boxes	4
	Tinkertoys:	
1	Giant size set, if space available	2
1	Regular set	2
X	Wall covering, plastic, odds and ends and sample books	X
8-10	Wheat powder, for making finger paint and paper-maché, lbs.	10-16
	Woodworking:	
1	Alcohol, qt.	1
1	Brace, non-ratchet, and bits, ¼", ½", ¾", 1", set	1
X	Carpenter's workbench with vise or 2-3 sturdy wooden tables or low, broad topped saw horses with vises	X
2	C-clamps, 4" - 6"	4
2	Claw hammers, 13 to 16 oz.	3
8	Dowel rods, ¼", ½", ¾", 1"	12
1	File, wood, half round	2
1	Hand drill, ¼" capacity and bits, set, or file point of nail for smaller size	1
1	Linseed oil, qt.	1
	Lumber:	
X	Mill-ends	X
12-24	Pine, white, surfaced on 4 sides, 1" × 4", ½" × 3", ¼" × 1", for axles on vehicles and 1" × 4" in 4' to 6' lengths for bases on boats, cabins, etc., pieces	18-36
1	Nail nipper or 6" pliers	2
5	Nails: finishing, blue lath, fine shank, smooth wire, roofing—with large heads, in 1", 1½" and 2" sizes, lbs.	8
1	Rasp, medium	2
3	Rulers, inch and centimeter markings, 12" long	6
1	Sandpaper, fine, medium, coarse, quire	1
2	Saws, crosscut, 18" blade	2
2	Screws, assorted sizes, boxes	2
1	Screw eyes, box	1
2	Screwdrivers, Phillips and straight	2
1	Shellac, white, qts.	2
1	Smoothing plane	1
2	Try squares	3
2	Turpentine, qts.	2
1	Wrench, monkey, 12"	1
	Wood or wood substitutes:	
6-12	Balsa, small pieces for planes and other models	12-18
2	Beaver board, 4' × 4', sheets	3
2	Tri-wall, sheets, 4' × 4'	2
12-20	Wooden discs, 3" to 5" diameter, or button molds, 1", 1½" and 2½", for wheels	18-24
1	Yard and meter stick combination	2
6-8	Yarn balls and odds and ends, assorted colors	8-12

SUGGESTED ITEMS AND QUANTITIES

VIII LANGUAGE ARTS

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
2	Alphabet wall cards, set	3
50-60	Books, children's:	60-75
X	Good books to read to children	X
X	Easy to read books	X
X	Text books	X
X	Trade books	X
2	Bookends, pairs	6
2	Book holders or racks for small books	3
6-8	Companion sets: books with complete script on records or cassettes for read-along activities	6-8
8-12	Games: Anagrams, Dominoes, Link Letters, Lotto, Old Maid, Parchesi, Phonic Rummy, Picture, Scrabble, Vowel Lotto	12-16
	Letters:	
2	Manipulative letters, various types, sets	3
1	Tactile letters, set	1
10-15	Puzzles, sequence, game and picture	10-15
X	Reading charts	X
	Record player (See Audiovisual Materials.)	
6-12	Recordings of stories and poems	6-12
3-5	Records for teaching listening skills, following directions, etc.	3-5
	Representative Play Materials:	
X	Costumes for creative dramatics and storage chest	X
	Dolls:	
4	Ethnic variety, male and female, 12" to 16", 2 sets of clothes for each doll	4
2	Community workers, sets	3
1	Doll carriage	1
2	Family, sets	2
10-20	Models: animals, boats, buses, cars, planes, trucks, etc.	10-20
5-10	Puppets: hand, finger and materials for constructing same	5-10
2	Telephones, toy	2
	Tape recorder (See Audiovisual Materials.)	
	Typewriters:	
1	Old, for children's use	2
	Primary (access to)	
4-6	Wall strips	4-6
10-24	Wall cards	10-24

IX MATHEMATICS

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
2	Abacus	4
	Blocks:	
2	Counting, table, sets	2
1	Cuisenaire rods, classroom set	2
1	Dominoes, large, set	2
1	Floor, large building, set	2
1	Geo, set	1
2	Number bars or rods, sets	2
1	Proportional numbers, set	1
1	Cash register, toy	1

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Early Elementary School Groups

AGES 6-10

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
	Clocks:	
1	Large, wooden face, gear operated hands	1
6-10	Small, wooden face, manually operated hands	10-18
	Wall, electric (See Basic Environmental Equipment.)	
1	Flannel board	2
2	Flannel board kits	2
X	Flash cards, different types	X
	Games:	
6-12	Bingo, Dominoes, Link Numbers, Magic Targets, Math Balance and Scale, Number Floor Line with Bean Bags, Skittles and other number games	12-18
1	Magnetic board	2
X	Math charts	X
	Measures:	
	Linear:	
1	Giant ruler	1
2	12" rulers with ¼", ½", and 1" markings	4
1	Meter stick, large, 90 centimeters	2
1	Meter stick, small, 30 centimeters	2
1	Tape measure with inches and centimeter markings	1
1	Yardstick	1
1	Liquid and dry: cup, pt., qt., gal, plastic set	2
2	Scales, English and metric, 1 each	2
	Thermometers, Fahrenheit and centigrade:	
1	Indoor and outdoor	1
1	Large cardboard model for teaching	1
1	Toy money, varying denominations, set	1

X MUSIC

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
1	Autoharp, 12 bar	1
	Bell sets:	
1	Chime	1
1	Melody	1
1	Resonator	1
1	Song	1
1	Step	1
1	Tone tuned	1
3	Bells, single	3
	Cassettes (See Audiovisual Materials.)	
	Cassette recorder (See Audiovisual Materials.)	
2	Castanets, hand, pairs	2
2	Clappers	2
	Cymbals:	
1	7", brass, pair	4
2	Finger, pairs	4
2	Drums	2
	Listening station equipment:	
6-8	Earphones and jacks	10-12
1	Manipulative scale blocks, set of 8	1
2	Maracas, pairs	2
1	Marimba or xylophone	1
	Music books:	
2-4	Rhythm	2-4
3-6	Song	3-6
	Piano (access to)	
	Radio (access to) (See Audiovisual Materials.)	
	Record player (See Audiovisual Materials.)	
	Records:	
2-4	Exercise	2-4
2-4	Folk dance	2-4
3-6	Rhythm	3-6
4-8	Singing	4-8
6	Rhythm sticks, pairs	6
3	Sand blocks, pairs	3
1	Tambourine	2
	Tape recorder (See Audiovisual Materials.)	
	Tapes (See Audiovisual Materials.)	
	Teaching aids:	
1	Chromatic pitch pipe	1
X	Music charts	X
	Television (See Audiovisual Materials.)	
1	Tom-tom, Chinese or Indian	1
2	Tone blocks	2
1	Triangle	2

XI SCIENCE

1	Ant farm	1
1	Aquarium with glass cover	2
10-18	Balloons	20-24
1	Barometer	1
1	Bicycle pump	1
8-12	Bulbs, garden	12-24
2	Cages with removable bottoms, for birds, hamsters, gerbils rabbits	3
1	Compass, magnetic	1
X	Containers, clear plastic with cork or screw-on plastic cover	X

SUGGESTED ITEMS AND QUANTITIES

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
X	Cooking equipment	X
1	Electric bell with wire, dry cells, set of 2	1
6-8	Flower containers: boxes, pots and vases in various sizes	8-12
X	Food for pets	X
	Garden equipment:	
3	Hoes	4
3	Rakes	4
2	Shovels	3
1	Spade	1
1	Sprinkler	1
2	Trowels	2
2	Watering cans	3
1	Hose, 20′	1
	Hot plate or stove (access to)	
	Incubator (access to)	
1-3	Insect cages	1-3
1	Iron filings, 20 mesh, pkg.	1
	Magnets:	
2	Horseshoe	3
2	Bar	4
	Magnifying glasses:	
1	Large, on stand	1
1	Small with handle	2
	Measuring stick, English and metric (See Mathematics.)	
	Microscope (access to)	
1	Preserving fluid, for specimens, qt.	1
2	Prisms	2
	Refrigerator (access to)	
	Scales (See Mathematics.)	
X	Seeds from flowers, fruits and vegetables	X
1	Terrarium with glass cover	2
3-5	Test tubes and beakers	4-6
	Thermometer, indoor/outdoor (See Mathematics.)	2
2	Timers, egg and clock types, 1 each	2
1	Tuning fork	1
1	Weather vane	1

XII SOCIAL STUDIES—SOCIAL AWARENESS

CLASSROOM 20-30 CHILDREN		CLASSROOM 30-60 CHILDREN
8-12	Activity cards, teacher made	12-18
	Blocks, table and floor sets (See Mathematics.)	
	Block accessories:	
6-18	Human and animal figures, 3″ to 8″ tall	18-24
6-12	Vehicles and machines, 3″ to 16″ length	18-24
1	Camera, film and flash bulbs	1
	Cassettes (See Audiovisual Materials.)	
1	Community resource file, people and places	1
X	Films and filmstrips featuring:	X
	Careers Government	
	Ecology Industries	
	Families Production and consumption	
1	Globe (See also Audiovisual Materials.)	2
X	Magazines: *National Geographic* and other illustrated periodicals depicting likenesses and differences in cultures	X
	Maps: (See also Audiovisual Materials.)	
1	Community	1
1	State	1
1	Nation	1
1	World	1
1	News bulletin board	3
X	News:	
X	Newspapers, adult	X
X	Newspapers, children's	X
X	Radio	X
X	Television	X
	Puppets (See Language Arts.)	
X	Role-playing properties	X
1	Sand table	2
4-6	Simulation games	6-8
	Tapes and cassettes (See Films and Filmstrips, above.)	
X	Transportation facilities for field trips	X

XIII RECYCLABLE MATERIALS

SUPPLY ACCUMULATED

The following list of recyclable or throw-away materials will be useful: for making creative teaching aids and games, for use in arts and crafts projects, for storage of other materials and for a variety of other classroom and home uses. All items must be clean, free from rough, sharp edges.

Buttons
Candy boxes with partitions and trays
Cardboard items: boxes, cartons, corrugated and other sheets, tubing from paper rolls, etc.
Catalogs
Cellophane grass used in packaging
Coffee cans
Egg cartons
Facial tissue boxes
Fruit boxes with partitions and trays
Gift wrapping paper, odds and ends
Hosiery boxes, novelty
Magazines for pictures, colored paper, letters and words
Margerine and cottage cheese containers with lids
Metal boxes, containers for candy, cookies, fruitcake, etc.
Newspapers:
  Supplements for colored pictures
  Ad sections for painting on, paper-maché and stuffing
Plastic items: bottles, boxes, cups, meat and fruit trays, lids and tops, etc.
Ribbon bits and lengths
Scraps of carpeting, contact paper, cloth, felt, sandpaper, yarn, etc.
Spools, large and small
Styrofoam packing
Tennis ball or similar cans
Tin cans, graduated sizes
Wallpaper and vinyl covering, left-overs and display books

Naomi C. Grothjan, Jeanne Jacobson and Helen Klein
Committee Chairperson, Naomi C. Grothjan

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR: Later Elementary or Middle School Groups

AGES 10-14

INTRODUCTION
I BASIC ENVIRONMENTAL EQUIPMENT
II BASIC EXPENDABLE SUPPLIES
III AUDIOVISUAL EQUIPMENT
IV ARTS AND CRAFTS
V COOKING
VI GARDENING OR OUTDOOR CENTER
VII WOODWORKING AND CONSTRUCTION
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IX LANGUAGE ARTS
  Listening
  Oral Expression—Dramatic Play
  Reading
  Writing—Recording
X MATHEMATICS
XI MUSIC AND RHYTHMS
XII SCIENCE
XIII SOCIAL STUDIES
XIV "JUNK BOX"—SCROUNGED MATERIALS

Note: Items and priorities suggested on the following pages of this section are to be thought of as guides in the selection and acquisition of materials rather than inventories.

Not only is the span identified as middle school wide and the differences between 10- and 14-year-olds great, but also as children add years to their lives the differences between those of the same chronological age increase. It is therefore almost impossible to be definitive about *all* early adolescents. The following comments must accordingly be considered to apply only to certain segments of the group.

Early adolescents are fully competent to function in the adult cognitive styles and tasks of their culture. This means the classroom must be a place that generates involvement with ideas and projects that match their new powers. There must be structure and plan, but also ample room for improvisation. Their adult thinking allows them to deal with incongruities and to think relativistically. They can deal with multiple attributes simultaneously and differentiate between an act and the intention behind the act. They are searching for inconsistencies, questioning and rearranging their own beliefs.

The teacher becomes a facilitator of learning, not one who instructs, as he helps the early adolescent who has given up the certainties of childhood, to explore the uncertainties of the adult world and to begin to deal with life's incongruities.

Biological changes can lead to a feeling of guilt, anxiety, anger and brashness; or they can lead to withdrawal as the adolescents try to cope with the multitude of bodily changes and a new social awareness. The teacher needs to lend support to the early adolescents as they cope with these physical and social changes. They do not want total freedom, but need leeway to test out ideas, interests and feelings. They need and often accept guidance. They show a desire to meet, and get to know, adults and share interests and experiences.

The classroom needs to be a place to explore interests, ideas and hobbies, as well as to develop peer relationships.

The list of equipment and materials that follows should be viewed as a smorgasbord of items to choose from in setting up interest, hobby and work/skill centers. Teachers will want to choose according to the areas in which they teach and their own personal styles and interests.

Naomi C. Grothjan

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Later Elementary or Middle School Groups

AGES 10-14

SUGGESTED ORDER OF ACQUISITION

Essential Items
First year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury items — D

SUGGESTED ITEMS

I BASIC ENVIRONMENTAL EQUIPMENT

	A	B	C	D
Bookcases	X			
Book display rack	X			
Bulletin boards	X			
Chairs	X			
Chalkboard	X			
Cubbies for storage and personal effects	X			
Filing cabinet	X			
First-aid cabinet stocked in accordance with individual school regulations	X			
Mirror, full length	X			
Paper cutter, or access to	X			
Peg board	X			
Peg board hooks	X			
Pillows			X	
Refrigerator, or access to				
Room dividers	X			
Rugs		X		
Shelves, child height, movable	X			
Shelves designed for paper storage			X	
Sink with counter space	X			
Stove or hot plate, or access to	X			
Tables	X			
Typewriter	X			
Typewriter, primary, or access to		X		
Workbench	X			
Xerox copier (access to)				

II BASIC EXPENDABLE SUPPLIES

	A	B	C	D
Acetate folders or sheets	X		X	
Block printing ink	X		X	
Chalk, colored, white	X	X	X	
Clay	X	X	X	
Cups	X	X	X	
Erasers:				
Chalkboard	X			
Rubber	X		X	
Fasteners, cotter pin type	X		X	
Glue:				
White	X	X	X	
Wood	X		X	
Rubber cement	X		X	
Gummed labels	X	X	X	
Kleenex	X	X	X	
Lettering pens	X			
Mystic tapes, assorted colors and sizes	X	X	X	
Non-flammable fluid for cleaning	X			
Paint, assorted colors:				
Enamel	X			
Flat	X		X	
Flourescent	X			
Model	X			
Oil pastels	X		X	
Tempera	X	X	X	
Watercolor	X	X	X	
Paintbrushes, assorted sizes	X			
Paper:				
Brown wrapping	X			
Butcher	X		X	
Carbon	X	X	X	
Contact	X	X	X	
Finger paint	X	X	X	
Graph, assorted	X		X	
Mimeograph	X		X	
Newsprint	X	X	X	
Notebook	X		X	
Oak tag	X		X	
Penmanship, assorted sizes	X	X	X	
Rice			X	
Shelf	X		X	
Sketching	X	X	X	
Story, plain at top, ruled lower half	X	X	X	
Typing	X	X	X	
Paste, wheat	X	X	X	
Pencil sharpener	X			
Playing cards, blank	X			
Punches, paper	X			
Reinforcements	X		X	
Rubber bands	X		X	
Sacks, paper	X		X	
Spiral notebooks	X		X	
Stenographers notebooks	X		X	
Suspension rings	X		X	
Tapes, blank cassette	X			

III AUDIOVISUAL EQUIPMENT

	A	B	C	D
Camera and film, or access to		X		
Charts	X			
Dark room equipment			X	
Dry mount press or access to		X		
Films (access to)				

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Later Elementary or Middle School Groups

AGES 10-14

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS

	A	B	C	D
Filmstrips (access to)				
Filmstrip viewers	X			
Globes	X			
Laminator (access to)				
Listening centers	X			
Maps	X			
Piano			X	
Projectors: (access to)				
Overhead				
Sixteen mm.				
Slide				
Record player	X			
Screen	X			
Slides (access to)				
Stereoscope			X	
Stereoscope reels			X	
Tape recorder, cassette	X			
Television set (access to)				

IV ARTS AND CRAFTS

	A	B	C	D
Aluminum foil	X	X	X	
Aprons	X			
Balsa wood	X	X	X	
Bead frames	X			
Beads	X	X	X	
Beans, various kinds	X	X	X	
Block printing equipment	X			
Brushes, assorted	X		X	
Buckets	X			
Burlap	X	X	X	
Buttons, assorted	X	X	X	
Cardboard	X	X	X	
Carder, for carding wool		X		
Carpet warp		X		
Charcoal	X	X	X	
Clay	X	X	X	
Clay tools	X			
Cloth, meshed	X		X	
Clothes pins	X			
Coffee stirrers	X	X	X	
Containers, many sizes	X	X	X	
Corks	X		X	
Cotton	X	X	X	
Cotton batting	X		X	
Crayons	X	X	X	
Crochet hooks	X		X	
Dye mordant			X	
Easels			X	
Embroidery hoops	X			

SUGGESTED ITEMS

	A	B	C	D
Felt	X		X	
Flour	X	X	X	
Foam rubber	X	X	X	
Food coloring	X	X	X	
Garlic press, for clay	X			
Glitter	X	X	X	
India ink	X		X	
Iron, electric	X			
Kiln (access to)				
Kiln equipment (access to)				
Knitting needles	X	X	X	
Laundry starch	X	X	X	
Leather	X	X	X	
Leather tools	X			
Macaroni, various shapes	X	X	X	
Marker pens, permanent and water color	X	X	X	
Masking tape	X	X	X	
Needles, all sizes	X	X	X	
Oil	X		X	
Paints (See Basic Expendable Supplies.)				
Paint holders	X		X	
Paper (See Basic Expendable Supplies.)				
Paper, multi-colored, cloth, and textured material, for collages	X	X	X	
Paper plates	X	X	X	
Paper towels	X	X	X	
Paste and glue (See Basic Expendable Supplies.)				
Pipe cleaners	X		X	
Plasticine, modeling material	X	X	X	
Plaster of Paris	X	X	X	
Plastic containers with tight covers for clay storage	X			
Potter's wheel (access to)				
Pots, for dyeing		X		
Rolling pins, for clay	X			
Salt	X	X	X	
Scissors and Shears	X		X	
Scotch tape	X	X	X	
Sketching paper (See Paper: Basic Expendable Supplies.)				
Spindles		X		
Stapler	X			
Tape measure	X			
Thimbles	X			
Thread	X	X	X	
Tongue depressors	X	X	X	

SUGGESTED ITEMS

	A	B	C	D
Toothpicks	X	X	X	
Tree branches for weaving	X	X	X	
Twine	X	X	X	
Water paints (See Paint: Basic Expendable Supplies.)				
Waxed paper	X	X	X	
Weaving looms	X			
Wood scraps	X	X	X	
Wool, natural	X	X	X	
Yard goods, fabrics	X	X	X	
Yarn	X	X	X	

V COOKING

	A	B	C	D
Blender (access to)				
Bottle opener	X			
Bowls, serving, assorted sizes	X			
Cake pans	X			
Canisters, or other containers with lids	X			
Can opener	X			
Cleanser	X	X	X	
Colander			X	
Cookie cutters		X		
Cookie sheets	X			
Corn popper				X
Cups	X			
Egg beater	X			
Electric fry pan (access to)				
Electric mixer (access to)				
Foods	X			
Flour sifter	X			
Forks	X			
Frying pans and covers	X			
Glasses	X			
Knives: butter, paring, steak	X			
Ladle	X			
Pitchers	X			
Plates	X			
Plates	X			
Pot holders	X			
Rolling pin	X			
Sauce pans and covers	X			
Soap, for dishwashing	X			
Spatula	X			
Spices	X			
Spoons: measuring, serving, tablespoons, teaspoons	X			
Teakettle	X			

VI GARDENING OR OUTDOOR CENTER

	A	B	C	D
Bulbs	X	X	X	
Fertilizer and plant food	X	X	X	
Flower boxes	X			
Flower pots and saucers	X			
Garden hose	X			
Hoes	X			
Pruning shears	X			
Rakes	X			
Seeds	X	X	X	
Shovels	X			
Soil	X	X	X	
Soil additives like vermiculite and perlite	X	X	X	

SUGGESTED ITEMS

	A	B	C	D
Soil test kit	X	X	X	
Terrariums or jars	X			
Trowels	X			
Watering cans	X			
Wheelbarrow		X		

VII WOODWORKING AND CONSTRUCTION

	A	B	C	D
Alcohol	X	X	X	
Axles			X	
Balsa wood		X	X	
C-clamps	X			
Coping saw	X			
Dowel rods	X	X	X	
File	X			
Glue, wood	X	X	X	
Hacksaw	X			
Hammers	X			
Hand drill and bits	X			
Hardware: hinges, hooks and eyes, staples, etc.	X	X	X	
Jigsaw	X			
Level	X			
Lumber: scraps of all kinds and white pine footage	X	X	X	
Nails, assorted	X	X	X	
Plane		X	X	
Pliers, needle nose and regular	X			
Power drill (access to)				
Power saw			X	
Rubber mallet		X		
Sandpaper	X	X	X	
Saw blades	X	X	X	
Shellac	X	X	X	
Screwdrivers, assorted	X			
Screws	X	X	X	
Socket wrench set			X	
Staple gun		X		
T-square	X			
Turpentine	X	X	X	
Vise	X			
Wheels		X		
Wire cutters	X			
Wire strippers	X			
Wood filler	X		X	
Workbench (See Basic Environmental Equipment.)				
Wrenches, assorted	X			

VIII PSYCHO-MOTOR MATERIALS

	A	B	C	D
Balance beams		X		
Balloons	X	X	X	
Balls: basketball, beach ball, football, soccer, softball, table tennis, tennis, volleyball	X			
Basketball standards (access to)				
Bats	X			
Chinning bars		X		
Climbing rope		X		
Climbing structures (access to)				
Equipment cart (access to)				
Gym scooters			X	
Hoops	X			

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Later Elementary or Middle School Groups

AGES 10-14

SUGGESTED ORDER OF ACQUISITION

Essential Items
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Luxury Items — D

SUGGESTED ITEMS	A	B	C	D
Hurdles (access to)				
Jump ropes	X			
Obstacle course items		X		
Parachute, approx. 24' × 28' (access to)				
Ping-pong table (access to)				
Rackets and paddles, for various sports	X			
Record player and records	X			
Shuttlecocks	X	X	X	
Stopwatch	X			
Tote bag for balls	X			
Tires for climbing: airplane inner tube, automobile and bicycle, old (access to)				
Traveling rings (access to)				
Tumbling mats	X			
Volleyball standards, net (access to)				

IX LANGUAGE ARTS

SUGGESTED ITEMS	A	B	C	D
Listening:				
Companion sets — books with complete script on records or cassettes	X			
Records, stories and poems	X			
Records for teaching listening skills	X			
Oral expression — dramatic play:				
Activity cards for tape recorder, teacher-made	X			
Cassette for oral expression	X	X		
Costumes for improvization	X			
Films	X			
Flannel board for child use	X			
Material for children to cut for stories	X	X	X	
Puppets, multi-ethnic	X			
Puppet theater	X			
Reading:				
Area for reading, comfortable	X			
Basals, if used, multi-level, appropriate interest	X			
Books in language of any child with foreign language background	X			
Cameras (access to)				
Comic books	X	X	X	
Film		X	X	
Language dictionaries	X			
Magazines	X	X	X	
Newspapers	X	X	X	
Reference books	X			
Supplementary texts, multi-grade, appropriate interests	X			
Trade books, multi-level and topic	X			
World record books		X		
Any well done, quality reference materials, e.g., adult books on fossils with excellent pictures		X		
Writing-recording:				
Activity cards for creative writing, teacher-made	X			
Box file for children's names and addresses	X			
Contact paper or book-binding tape	X	X	X	
Dictionaries, child made	X	X	X	
Dictionary	X			
Magazine and other pictures, for creative writing	X	X	X	
Material for construction of hard cover books	X	X	X	
Paper for creating cartoons	X	X	X	
Paper, pens, pencils, etc. (See Basic Expendable Supplies.)				
Photo albums	X	X	X	
Scrapbooks	X	X	X	
Stationery and envelopes	X	X	X	
Thesaurus	X			
Typewriter paper (See Basic Expendable Supplies.)				
(See scrounge list for additional supplies.)				

X MATHEMATICS

SUGGESTED ITEMS	A	B	C	D
Abacus	X			
Adding machine				X
Area and perimeter boards	X			
Attribute materials	X			
Calculator			X	
Calipers			X	
Cash register and money			X	
Checkbooks		X		
Conversion charts	X			
Counters	X			
Cuisenaire rods, squares, cubes	X			
Erector set			X	
Flash cards	X			
Fraction bars	X			

SUGGESTED ITEMS

	A	B	C	D
Fraction wheel	X			
Games: checkers, chess, dominoes, etc.	X	X	X	
Geometric board	X			
Geometric solids, cardboard for making	X			
Graduated cylinders	X			
Marbles	X			
Mathematical balance	X			
Measuring devices, English and metric:				
Blank stick	X			
Clock	X			
Compass	X			
Gauges	X			
Map measures	X			
Meter and yardsticks	X			
Metronome				X
Pedometer				X
Rulers	X			
Scales and weights	X			
Stopwatch		X		
Tape measure	X		X	
Thermometers	X			
Trundle wheel			X	
Menus, catalogs and telephone directory yellow pages	X	X	X	
Number lines	X			
Nuts and bolts		X		
Order forms		X		
Pegboard	X			
Receipt books		X		
Rubber bands for geometric board	X		X	
Springs	X			
String	X			
Sugar cubes	X	X	X	
Tangrams	X			
Tickets	X			
Washers, colored		X		

XI MUSIC AND RHYTHMS

	A	B	C	D
Autoharp		X		
Balloons	X	X	X	
Balls	X			
Blank sheet music	X	X	X	
Castanets, hand	X			
Charts	X	X	X	
Chimes	X			
Clappers	X			
Finger cymbals	X			
Gong	X			
Hoops	X			
Jump ropes	X			
Maracas	X			
Marimba		X		
Rattles	X			
Record player (See Audiovisual Equipment.)				
Records	X	X	X	
Recycled materials: beads, bells, cartons, coconut shells, drum heads (old), inner tubes, nails, roofing washers, rope, scarves, string, wire	X	X	X	
Rhythm sticks	X			
Sand blocks	X			
Triangle	X			
Xylophone	X			

XII SCIENCE

	A	B	C	D
Alcohol burner	X			
Ant farm	X			
Aquariums	X			
Baking soda	X	X	X	
Balances, double and single arm fulcrum, metric and English	X	X	X	
Balloons (See Music and Rhythms.)				
Barometer		X		
Batteries	X	X	X	
Beakers	X			
Bellows		X		
Bicycle pump	X			
Blotting paper	X	X	X	
Buzzers	X			
Cages for pets	X	X	X	
Clips	X			
Cooking timer	X			
Cornstarch	X	X	X	
Cotton	X	X	X	
Dissecting kit			X	
Dyes	X	X	X	
Egg timer	X			
Electric bells	X			
Electric bulbs	X	X	X	
Electric switches, assorted	X			
Filter papers	X	X	X	
Flashlights	X			
Flexible plastic tubes	X			
Food coloring	X			
Funnels	X			
Gauges, rain, wind		X		
Incline plane		X		
Incubator	X			
Insect cage		X		
Iodine	X	X	X	
Iron filings	X	X	X	
Kites, material for making	X	X	X	
Lenses	X			
Litmus paper	X	X	X	
Magnetic compasses	X			
Magnets, assorted	X	X	X	
Magnifying glasses	X			
Magnifying glasses on stands	X			
Medicine droppers	X			
Microscopes (access to)				
Miniature electric motors	X		X	
Mirrors, assorted	X			
Nuts and bolts		X		
Pendulum frames		X		
Petri dishes	X			
Plants	X	X	X	
Plastic bags	X	X	X	
Preserving fluid, for specimens			X	

SUGGESTED EDUCATIONAL EQUIPMENT AND MATERIALS FOR:

Later Elementary or Middle School Groups

AGES 10-14

SUGGESTED ORDER OF ACQUISITION

Essential Items
First Year — A
Replacements and Additions
Second Year — B
Replacements and Additions
Third Year — C
Luxury Items — D

SUGGESTED ITEMS

	A	B	C	D
Prisms	X			
Pulleys	X			
Pumps	X			
Rock hammer and goggles		X		
Rocks	X	X	X	
Salt	X	X	X	
Sand and water table with materials	X			
Screwdrivers	X			
Shells	X	X	X	
Siphon	X			
Sponges	X	X	X	
Sprayers	X			
Springs	X			
Squeeze bottles	X			
Straws	X	X	X	
Sundial			X	
Syringes			X	
Take-a-part equipment: old clocks, typewriters, etc.	X	X	X	
Test tubes and beakers	X	X		
Tubing	X	X	X	
Vinegar	X	X	X	
Weather vane			X	
Weights		X		
Wire	X	X	X	
Wire cutters	X			

XIII SOCIAL STUDIES

	A	B	C	D
Acetate for making your own slides (See Basic Expendable Supplies.)				
Activity cards, teacher-made	X	X	X	
Books, appropriate interest levels	X			
Box file, for names and addresses of resource people children could contact for information	X			
Camera, films and flashbulbs (See Audiovisual Equipment.)				
Daily newspaper	X	X	X	
Globes	X			
Magazine and newspaper articles	X	X	X	
Map and globe kit	X			
Maps, assorted	X			
Multi-cultural kits and materials including clothing, artifacts, regalia	X			
Simulation games	X	X	X	
Teacher collected magazine and newspaper articles	X	X	X	

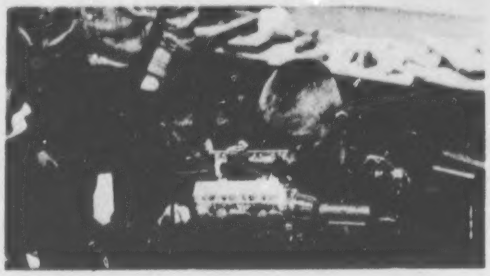
SUGGESTED ITEMS

	A	B	C	D
Trade tapes on interest enrichment topics	X			
(See Language Arts for additional suggestions.)				

XIV "JUNK BOX" SCROUNGED MATERIALS

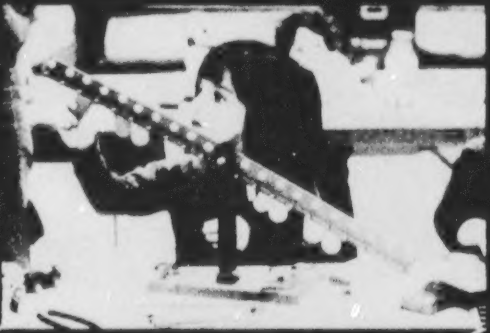
SUPPLY ACCUMULATED

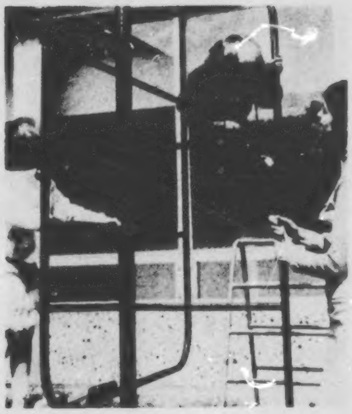
Beads
Berry baskets
Boxes, all sizes
Cardboard
Car parts
Cartons
Coconut shells
Dowels
Egg cartons
Fabrics
Film cartridges
Inner tubes
Jars
Leather scraps
Library book covers and paper
Materials for collages
Nails
Paper rolls
Parts of old equipment
Plastic containers
Rope
Scarves
Scrapbook
Spools
String
Take-apart equipment
Wire
Wood for: burning, painting and writing on, carpentry, carving, gluing free form designs



Part 3

DIRECTORY OF MANUFACTURERS AND DISTRIBUTORS





Annotated List of Manufacturers and Distributors of Educational Equipment and Materials

Lucy Prete Martin and *Elizabeth Neterer*

IMPORTANT PREFATORY NOTE: What follows is our first substantial effort to provide in one source a comprehensive annotated directory of manufacturers and distributors of educational materials and equipment for children (infancy through early adolescence). It is our hope that the list will enhance the value of *Educational Equipment and Materials* as a useful resource for teachers, parents and others who work with children.

We well recognize that this first attempt to provide such a listing is not complete. Three mailings to over 500 firms brought a substantial response (over 50 percent), and telephone calls and personal contacts enlarged the list further. For the most part, only those firms that responded in some way have been included. As important omissions come to our attention, note will be made to include them in the next edition of *Educational Equipment and Materials.*

ABC SCHOOL SUPPLY, INC., 437 Armour Circle, NE, P.O. Box 13084, Atlanta, GA 30324. Distributes variety of materials in educational field: Creative Playthings, Fisher-Price, Instructo, Judy, Lauri, Rotadyne's "Little Tikes," Milton Bradley, Playskool, Samsonite.

ACI MEDIA, INC., 35 W. 45th St., New York, NY 10036. 16mm films and 35mm sound filmstrips for all areas of education and entertainment.

ADVANCED LEARNING CONCEPTS, INC., 205 W. Highland Ave., Milwaukee, WI 53203. Programs, materials, kits and books for early childhood, special education, el-high reading and social studies. Four-color photographic illustrated books, study prints, filmstrips. All materials distributed by Follett Publishing Co., 1010 W. Washington Blvd., Chicago, IL 60607.

AFRO-AM PUBLISHING CO., INC., 1727 S. Indiana Ave., Chicago, IL 60616. Publishers and distributors of multimedia teaching materials: kits, books, teachers' guides, audio and audiovisual, specializing in Black Studies.

AMERICAN ART CLAY CO., INC., 4717 W. 16th St., Indianapolis, IN 46222. Art and craft materials, modeling media, pottery and metal enameling supplies and equipment.

AMERICAN GUIDANCE SERVICE, INC., Publishers' Bldg., Circle Pines, MN 55014. Publishers of tests (achievement, aptitude, intelligence, social and motor maturity scales, school readiness, speech, language, hearing); instructional programs (affective, cognitive, speech and language development); other materials in areas of speech, language, reading, guidance. In Canada available from Psycan Ltd., Willowdale, Ont. M2J 1R3.

AMERICAN OPTOMETRIC ASSOCIATION, 7000 Chippewa St., St. Louis, MO 63119. Spaceman Seymour Safely's vision education program includes games, puppet skits, songs and jingles that help primary grade children learn about vision.

AMERICAN PLAYGROUND DEVICE CO., P.O. Drawer #2599, Anderson, IN 46011. American-approved extra-heavy-duty park, picnic, playground, nursery swing seats, steel slides, merry-go-rounds, castle tower climbers, swimming pool, beach and dressing room equipment; extra-heavy-duty bicycle racks.

AMERICAN SEATING CO., 901 Broadway, NW, Grand Rapids, MI 49504. Tables and chairs, space dividers, chalk and bulletin boards, Whistle Seats.

AMF VOIT, INC., 3801 S. Harbor Blvd., Santa Ana, CA 92704. Athletic equipment in early childhood 2-8, later childhood 6-10, early adolescence 9-14.

ANGELES NURSERY TOYS, 5507 Lee Highway, Arlington VA 22207. Toys for young children, including two-wheeler bikes, Carry-All Bike, Rickshaw Bike (two-passenger), wagons.

ARISTERA ORGANIZATION, 9 Rice's Lane, Westport, CT 06880. Lefthanded articles such as scissors, baseball gloves, spiral-bound notebooks, knitting manuals, handwriting manuals, kitchen implements, rulers.

ATLANTIS PRODUCTIONS, INC., 850 Thousand Oaks Blvd., Thousand Oaks, CA 91360. 16mm educational and documentary films.

AUDIO FIDELITY CORP., EARLY LEARNING DIV., 7217 W. Broad St., Richmond, VA 23230. Early childhood materials, media and equipment. Complete selection of toys, A-V equipment and media, instructional aids, multimedia programs and classroom furniture for preschool through elementary ages. Specific catalogs available upon request.

AVALON INDUSTRIES, INC., 95 Lorimer St., Brooklyn, NY 11206. Basic crayons, paints, watercolors and clays, plus boxed activity sets; cover everything from embroidery to beadwork to a count'n spell alphabet set. Many are simplified and easy-to-do versions of adult crafts; designed to be safe to work with.

B&T LEARNING MATERIALS, 1515 Broadway, New York, NY 10036. Early childhood and special education learning materials in areas of math, language skills, perception, social concepts, active play; manipulatives, puzzles, rhythm instruments.

BARR FILMS, 3490 E. Foothill Blvd., Pasadena, CA 91107. Producer/distributor of 16mm films.

BECKLEY-CARDY CO., 1900 N. Narragansett Ave., Chicago, IL 60639. Complete equipment, supplies and teaching aids for schools and educators.

BELL & HOWELL BUSINESS EQUIPMENT GROUP, 6800 McCormick Rd., Chicago, IL 60645. 5400 Duplicator—created specifically for schoolroom use.

BENCHMARK FILMS, INC., 145 Scarborough Rd., Briarcliff Manor, NY 10510. 16mm films only.

BENEFIC PRESS, 10300 W. Roosevelt Rd., Westchester, IL 60153. Multimedia programed instruction from kindergarten through junior high: pictures, study-scopes, cards, filmstrips, cassettes, graphs, charts, books, maps, globes, transparencies. Aids for math, reading and thinking skills, science, language arts, guidance, economics, social studies.

BFA EDUCATIONAL MEDIA, DIV. OF CBS, INC., 2211 Michigan Ave., P.O. Box 1795, Santa Monica, CA 90406. International distributor of educational, supplemental materials: filmstrips, film loops, 16mm films, tape cassettes and print materials. For primary, elementary through junior high (also senior high, adult, college) in all subject areas. Write for catalogs.

BILLY BUDD FILMS, 235 E. 57th St., New York, NY 10022. Short animated films on values, self-identity, etc.

BINNEY & SMITH, INC., 380 Madison Ave., New York, NY 10017. Manufactures CRAYOLA® crayons, finger paint, tempera, chalk, clays, adhesives and other art education materials. Edu-Cards subsidiary company produces teaching aids for preschool and elementary.

BIOSCOPE MANUFACTURING CO., P.O. Box 1492, Tulsa, OK 74101. Micro-projectors designed to present the wonders of the microscopic world, including the Bioscope Model 500 and the Bioscope III. An entire group may study the same specimen at the same time. Elementary slide kits.

BOBRICK WASHROOM EQUIPMENT, INC., 11611 Hart St., North Hollywood, CA 91605. Stainless steel washroom accessories and laminated plastic toilet compartments.

BORG-WARNER EDUCATIONAL SYSTEMS, 600 W. University Dr., Arlington Heights, IL 60004. System80 is a diagnostic/prescriptive audiovisual learning system designed to help teachers provide each student with an individualized program of instruction. Curriculum materials include series in *Beginning Math Concepts*, *Beginning Language Concepts* (available in bilingual edition), alphabet, phonics, reading, addition, subtraction, multiplication, division, fractions, decimals, time, money, spelling, remedial reading, French.

BOWMAR PUBLISHING CORP., 622 Rodier Dr., Glendale, CA 91201. Complete multimedia language, music, reading, social studies, science, music and perceptual-motor development materials for children.

BRIGHAM YOUNG UNIVERSITY, MEDIA MARKETING, Green House, Provo, UT 84602. 16mm films and filmstrips.

BROWNSON EQUIPMENT CO., 2609 W. Cary St., Richmond, VA 23220. Classroom furniture, wood and steel: chairs, plastic seats and back; folding tables, adjustable legs; rest cots, stacking; playground equipment, indoor and outdoor; landscape screens (room dividers); chalkboard, wall and easel; lockers (wood), open or with doors; house play materials; work benches; transportation equipment (boats, trucks, traffic signs).

CAEDMON RECORDS, INC., 505 8th Ave., New York, NY 10018. Over 1200 spoken word records and cassettes including children's classics. *The Story of Babar* read by Louis Jourdan; *Charlie and the Chocolate Factory*, read by Roald Dahl; authors and poets reading their own works such as T.S. Eliot, Robert Frost; complete plays of Shakespeare and dramas, *Death of a Salesman*, etc.

CAROLINA SCHOOL SUPPLY CO., INC., P.O. Box 2185, Charlotte, NC 28201. Materials for arts and crafts, library, early childhood, audiovisual and special education and curriculum subjects: math, reading, social studies, sciences. Playground equipment, school and classroom supplies. Distributor for many manufacturers.

CARTER'S INK CO., 230 1st St., Cambridge, MA 02142. Draws-a-Lot water-color crayons. Washable, nontoxic, broad and fine tip markers in 10 colors; sets of 10 or 5 colors in reusable plastic pouch. Stix-A-Lot glue stick designed for paper sticking; thrifty 4 oz. size; rubs on.

CCM SCHOOL MATERIALS, INC. (see Macmillan Publishing Co. and Macmillan School Supplies).

CENTER FOR MEDIA DEVELOPMENT, INC., 150 Great Neck Rd., Great Neck, NY 11021. Films and filmstrips for teacher-training: *A Piaget Preschool Program in Action* (filmstrips on teaching classification, number, measurement, space and seriation concepts), *Talkabout: An Early Childhood Development Resource*, and *Growth and Intelligence* films.

CENTRAL SCIENTIFIC CO., 2600 S. Kostner Ave., Chicago, IL 60623. Complete line of scientific equipment, especially for grades K-12, college and scientists.

CHANNING L. BETE CO., INC., 45 Federal St., Greensfield, MA 01301. Booklets and multimedia units on a variety of topics, including language arts, social studies, health, safety.

CHARLES E. MERRILL PUBLISHING CO./A BELL & HOWELL CO., 1300 Alum Creek Dr., Columbus, OH 43216. Textbooks and audiovisual materials for kindergarten through college levels.

CHERMSIDE, Rt. 6, Box 427, Staunton, VA 24401. Aprons, Spatter Box.

CHILD BILT SYSTEMS, 1512 Bay St., Santa Cruz, CA 95060. Mahogany woodworking kits—simplified tools; materials dimensioned for total, therapeutic, mind-body involvement for 3-8 years; grade 2 up and handicapped in self-directed creation; demountable, reusable "I-Did-Its"; horse (supports adult); scooter body; ladder; table; stool. Other kits. Free flyer; illustrated guide 40 cents.

CHILD LIFE PLAY SPECIALTIES, INC., 55 Whitney St., Holliston, MA 01746. Forty pieces made from durable wood designed to last through the growing years; hand-manufactured. Send 25 cents for 24-page color catalog.

CHILDCRAFT EDUCATION CORP., 20 Kilmer Rd., Edison, NJ 08817. Early childhood learning/playing/teaching materials, from basic equipment to imaginative play. Also, the *Growing Years in Sight and Sound*, a series designed to aid those who work with children (available in Spanish and English).

CHILDHOOD RESOURCES/ARTWOOD (Artwood Carving Co. of Ga., Inc.), P.O. Drawer A, Highway 41 at Valley Rd., Woodland, GA 31836. Preschool, kindergarten, day care wooden toys and furniture (trucks, play kitchens, blocks, cabinets—70 items). Also tables, chairs, desks, room dividers.

CHILDHOOD RESOURCES, INC., 5307 Lee Highway, Arlington, VA 22207. Curriculum materials, consultant and training resources: tactile toys of wood created by European artists, manipulative math material, Folkways records, puppets; basic equipment, large blocks, child-size play furniture (wood), big-muscle play equipment, furniture for storage and display; slide narrative programs on cassette tape, learning program for teachers, aides, parents, volunteers, administrators.

CHILDREN'S CARAVAN, INC., Weston, CT 06880. Custom design and construction of mobile multimedia theater libraries.

CHILDREN'S CLASSICS ON TAPE, 6722 Bostwick Dr., Springfield, VA 22151. Children's stories narrated on audio cassette with accompanying teaching guide. Means for developing and refining listening skills; guides offer ideas for teachers interested in strengthening literature programs. Grades 3-8.

CHILDREN'S MUSIC CENTER, INC., 5373 W. Pico Blvd., Los Angeles, CA 90019. Phonograph records, books and other enrichment materials for use by young children and their parents or teachers. Material tested by experts working with children; all available at one place or with one mail order.

CHILD'S WORLD, THE, INC., 1556 Weatherstone La. (Box 681), Elgin, IL 60120. Study prints, sequence charts, fold-outs; social studies, nature study. Seasonal walk charts; lift-up puzzle games; "Developing Understanding" books (*How Do You Feel?* and *Try on a Shoe*); alphabet books. In color, all for early childhood.

CHURCHILL FILMS, 662 N. Robertson Blvd., Los Angeles, CA 90069. Films for later childhood through later adolescence. All subject areas.

CINEMA CONCEPTS, INC., 91 Main St., Chester, CT 06412. 8mm, Super 8 and 16mm entertainment and educational motion pictures for sale at discount prices. Subjects include cartoons, comedies, story classics, Christmas stories, circus spectaculars, Walt Disney highlights. Free catalog.

COMMUNACAD, Box 541, Wilton, CT 06897. Multimedia vocabulary programs for grades 4 through college; filmstrips; cassettes; workbooks; story format; pre-tests; post-tests; puzzles; games.

COMMUNITY PLAYTHINGS, Rifton, NY 12471. Wooden educational play equipment for children from 6 weeks to 6 years, with emphasis on versatility. Equipment for dramatic play and large muscle activity, blocks, manipulative toys, wheeled toys and furniture.

CONSTRUCTIVE PLAYTHINGS, 1040 E. 85th, Kansas City, MO 64131. Complete line of early childhood materials for infants through elementary-school age. Supplier for all day care center needs in equipment and supplies.

CONTINENTAL PRESS, INC., 520 E. Bainbridge St., Elizabethtown, PA 17022. Instructional materials in the basic subject areas. Publications include liquid duplicating masters, workbooks, transparencies, filmstrips, boxed sets.

CORONET INSTRUCTIONAL MEDIA, 65 E. South Water St., Chicago, IL 60601. Complete AV materials—16mm films, sound filmstrips, 8mm film loops, audio cassettes, study prints, multimedia kits, pixfiles and slidefiles—in all curriculum areas K-12.

CRAIG EDUCATION, 921 W. Artesia Blvd., Compton, CA 90220. Craig Readers and programs designed by educators for use at every age and learning level. Audiovisual tools for individualized reading instruction. Distributor, Audio Fidelity Corp.

CREATIVE PLAYTHINGS, Edinburg Rd., Cranbury, NJ 08512. Basic toys for infancy through 5th grade designed for durability.

CREATIVE PUBLICATIONS, INC., P.O. Box 10328, Palo Alto, CA 94303. Manipulative materials that supply laboratory approach to math, employing different measuring systems, different bases, geometrical forms. Attribute sets, games, puzzles. Many items portrayed in full color.

CREATIVE STUDIES, INC., 167 Corey Rd., Brighton, MA 02146. Fifty activity folders for fun and challenge; design ideas; challenge folder; discovery experiments; creative games, color coordinated.

CREATIVE TEACHING PRESS, INC., 1900 Tyler #22, South El Monte, CA 91733. Let's Begin series. Idea files of creative learning activities. Developed by Doris Edmund. Send for free brochure.

CUISENAIRE COMPANY OF AMERICA, INC., 12 Church St., New Rochelle, NY 10805. Publishers of math texts, models and games for children from preschool through high school with emphasis on learning through experience.

D.C. HEATH & CO., 125 Spring St., Lexington, MA 02173. Instructional materials and teaching/learning tools for elementary and secondary education. A-V materials for elementary classrooms. Tapes, records, transparencies, films, filmstrips, books.

DANA PRODUCTIONS, 6249 Babcock Ave., North Hollywood, CA 91606. Positive motivational concepts of life films: *Get High on Life, No Man Is An Island, The Joy of Achievement, The Joy of Communication*. Also history, ethnic and social studies films.

DAVID C. COOK PUBLISHING CO., 850 N. Grove Ave., Elgin, IL 60120. Teaching picture sets and materials for the flannel board. Preschool, kindergarten and primary grades. Free catalog on request.

DAVIDSON FILMS, INC., 3701 Buchanan St., San Francisco, CA 94123. Animated films that teach children math concepts, utilizing the metric system.

DELMER F. HARRIS CO., P.O. Box 288, Concordia, KS 66901. Playmate playground equipment, including "Swedish Gym" Circuit Training (Obstacle) Course, which combines body-building apparatus into compact unit. Used for free play and by elementary physical education classes for movement exploration, obstacle course progression, circuit training, basic gymnastics, testing.

DEMCO EDUCATIONAL CORP., Box 1488, Madison, WI 53701. Jobber of audiovisual materials, books and library supplies.

DENNISON MANUFACTURING CO., 300 Howard St., Framingham, MA 01701. Crepe papers, gummed papers, papercraft instruction books; school supplies; gummed decorative seals, colored decorative prints; visual aids.

DENOYER GEPPERT CO., 5235 Ravenswood Ave., Chicago, IL 60640. Early Explorations: program of learning readiness and oral language development; includes five kits of nonconsumable student manipulative and teacher handbooks; sample lessons for four development ability levels approximate chronological ages 4-6; based on performance objectives and criterion exercises. Free brochures.

DEVELOPMENTAL LEARNING MATERIALS, 7440 Natchez Ave., Niles, IL 60648. Materials for special education, early childhood, elementary and remedial situations—including manipulatives to aid in visual and auditory perception, motor skills and basic academic subjects.

DICK BLICK CO., P.O. Box 1267, Galesburg, IL 61401. Montessori-type materials; Blick's *Hand-Eye* manipulatives and other materials for special education; classroom art materials (tempera, crayons, markers, etc.); supplementary learning aids for preschool through elementary (puppets, puzzles, visuals, cassettes, physical education equipment, cots, chairs, furniture). Free catalog.

DISCOVERY WORKSHOP, 225 E. 36th St., New York, NY 10016. Manufacturers and distributors of the Spatter Paint Box.

DOCENT CORP., 430 Manville Rd., Pleasantville, NY 10570. Docent reading comprehension system grades 3-4, 5-6, 7-9. Making judgments grades 6-9.

DUKANE CORP., 2900 Dukane Dr., St. Charles, IL 60174. Filmstrips, sound, machines.

ECONOMY CO., P.O. Box 25308, 1901 N. Walnut, Oklahoma City, OK 73125. Individualized programs on tape cassettes and cassette players for self-paced instruction. Programs, both remedial and supplemental, in reading, math, speech improvement and audio readiness, oral comprehension, structural English.

EDMUND SCIENTIFIC CO., 555 Edscorp Bldg., Barrington, NJ 08007. For industry, hobbyists and school: ecological and physical sciences, optics, science. Hobbies; unique lighting effects.

EDU-CARDS CORP., 380 Madison Ave., New York, NY 10017. Manufactures early childhood learning games and crafts including flash cards, lotto games, Edu-Craft® items, and Crayola Craft™ kits. Suitable for children aged 4-12.

EDUCATION ACHIEVEMENT CORP., P.O. Box 7310, Waco, TX 76710. Three multimedia instructional systems for kindergarten through 8th grade stressing mastery of career-education concepts and specific-thinking skills through valuing. Distributor, Audio Fidelity Corp.

EDUCATIONAL ACTIVITIES, INC., 1937 Grand Ave., Baldwin, NY 11510. Headquarters for all Hap Palmer recordings. Records, cassettes, filmstrips and multimedia programs for preschool through senior high.

EDUCATIONAL CONCEPTS CORP., 4008 Jefferson St., Hollywood, FL 33021. Producer of Flip-Chex: Perceptual Development Kit, Reading Readiness Kit, Primary Math Kit. Distributor, Audio Fidelity Corp.

EDUCATIONAL DESIGN, INC., 47 W. 13th St., New York, NY 10011. Audiovisual programs in the areas of prevocational training, social studies, ethnic heritage, science and language arts.

EDUCATIONAL DEVELOPMENTAL LABORATORIES, DIV. OF McGRAW-HILL BOOK CO., 1221 Ave. of the Americas, New York, NY 10020. Produces and distributes multisensory learning programs in following categories: perceptual accuracy (auditory, visual, visual motor), left-to-right visual skills, body awareness, word study skills, reading comprehension (literal), reading comprehension (interpretation), listening comprehension, critical listening, math concepts.

EDUCATIONAL INSIGHTS, INC., 20435 S. Tillman Ave., Carson, CA 90746. Educational activity and task cards in all subject areas K-6. Teacher's aids, recipe boxes and idea cards. Learning center materials, games, audiovisual programs. ESL and gifted materials.

EDUCATIONAL MATERIALS & EQUIPMENT CO., 46 Lafayette Ave., New Rochelle, NY 10801. Microscopes (monocular and st[illegible]o) for primary, middle and upper elementary. Rock, mineral and fossil collection (59 specimens 1 × 1½); 2 sound filmstrips on relationship of earth and moon; 3 sound filmstrips on energy; solar energy outfit; each with study guide. Set of 243 color slides of living things.

EDUCATIONAL MEDIA, INC., 3191 Westover Dr., S.E., Washington, DC 20020. Early childhood playground and wood equipment ages 2-14. Children's play equipment and Safety Surf for ground cover.

EDUCATIONAL PLAY THINGS, DIV. OF AUDIO FIDELITY CORP., Richmond, Arlington, Norfolk, Roanoke, VA. Distributors, among others, for: Hazelle's Puppets, Hohner, Lauri, Learning Products Inc., Maple Wood Products, Milton Bradley and Playskool, Playground Corporation of America, Rotadyne's "Little Tikes," Trend, Enrich, Ideal. All types of early childhood media and manipulatives.

EDUQUIP-MACALASTER CORP., 1085 Commonwealth Ave., Boston, MA 02215. Science in a Shoebox. Basic science concepts. Elementary-level science in all areas of scientific investigation. Simple instructions; high-impact plastic; designed for individual or teacher assistance.

ENCORE VISUAL EDUCATION, INC., 1235 S. Victory Blvd., Burbank, CA 91502. Color/sound filmstrips for primary grades through high school. Recent releases for use in art, social studies, guidance, language arts, science. Elementary subjects a specialty. Free catalog.

ENCYCLOPAEDIA BRITANNICA EDUCATIONAL CORP., 425 N. Michigan Ave., Chicago, IL 60611. PRS (Pre-Reading Skills Program), LEIR (Language Experiences in Learning), 16mm and 8mm films, filmstrips, books, records, overhead transparencies, multimedia kits.

ENCYCLOPAEDIA BRITANNICA PUBLICATIONS, LTD., 151 Bloor St. W., Toronto, Ont. M5S 1T1 Can. Films, study prints, models, multimedia kits for early and later childhood through later adolescence.

ENRICH, INC., 760 Kifer Rd., Sunnyvale, CA 94086. Publisher and manufacturer of instructional material, including the Telor Learning System for K-10 with programs in reading-language arts, math, metrics and science (Telor is a hand-held instructional device using interchangeable program cartridges). Complete line of metric teaching aids.

ENVIRONMENTS, INC., EARLY CHILDHOOD EDUCATION DIV., Beaufort Industrial Park, P.O. Drawer V, Burton, SC 29902. Materials for learning center units: arts and crafts, block play, family living, music and rhythms, science, woodworking, etc.

ESTAMAE RHYTHM RECORDS, 2401 Grand Ave., Box 1507, Pueblo, CO 81003. Album #1, "Estamae's Toyshop." Albums #2 & #3, "Let's Have Fun Dancing." Album #4, "Circus Fun & Ball Bouncing." Some parts of all albums can be used in all grades.

EYE GATE HOUSE, 146-01 Archer Ave., Jamaica, NY 11435. Sound filmstrips and Super 8mm films for children. All subjects, all grade levels.

F.A.O. SCHWARZ, 754 5th Ave., New York, NY 10022. A wide variety of play materials and toys.

FEARON PUBLISHERS, 6 Davis Dr., Belmont, CA 94002. Books and curriculum materials for early childhood education by such authors as Cherry, Throop, Capon and Quick.

FILMS, INC., 1144 Wilmette Ave., Wilmette, IL 60091. 16mm films for sale or for rent for all grade levels in language arts, social studies, science. Also Hollywood movies, for rent only, and cartoons.

FISHER-PRICE TOYS, INC., East Aurora, Erie County, NY 14052. Toys of safe construction and design.

FISHER SCIENTIFIC EDUCATIONAL MATERIALS DIV., 1259 N. Wood St., Chicago, IL 60622. Science instructional materials: aquariums, living and preserved biologicals, audiovisual software, environmental materials, metric manipulatives, models, charts, microscopes.

FOLKWAYS RECORDS, 43 W. 61st St., New York, NY 10023. Formerly Asch Records, Folkways has over 200 ethnic, rhythm, playparty, dance records and many other learning recordings for children.

FREDA MILLER RECORDS FOR DANCE, Dept. C., Box 383, Northport, NY 11768. Ages 2-11. *Music for Rhythms and Dance.* Album #4: for the teacher with limited training. Thirteen pieces for simple movement, imaginative use and elementary rhythms; varies from very easy to fairly complicated. Also *Pied Piper Ballet.* Brochure.

GABRIEL INDUSTRIES, INC., 200 5th Ave., Suite 1256, New York, NY 10010. Manufacturers of educational and preschool toys, hobbies, crafts, home playground equipment and sporting goods.

GAMCO INDUSTRIES, INC., P.O. Box 1911, Big Spring, TX 79720. Filmstrips, math teaching aids, filmstrip/cassette programs, cassettes, transparency sets, chalkboards and bulletin boards.

GARRARD PUBLISHING CO., 1607 N. Market St., Champaign, IL 61820. Supplementary teaching aids for reading and math; books for independent reading, ages 5-12.

GENERAL LEARNING CORPORATION, EDUCATIONAL AIDS & SILVER BURDETT DIVS., 250 James St., Morristown, NJ 07960. Wooden puzzles, toys, skill development manipulatives; early childhood filmslide and record programs for Phono-Viewer; language arts games for intermediate grades; programs in math, music, science, spelling, social studies for kindergarten through high school; picture packets for social studies; kits of math materials; Parent/Child Toy Lending Library program.

GEODESTIX, P.O. Box 308, Parkwater Station, Spokane, WA 99211. Construction toys.

GREAT IDEAS, INC. P.O. Box 274, Commack, NY 11725. Enrichment math materials including, among other items, the ARITHMABLOCKS.

GUIDANCE ASSOCIATES, 757 3d Ave., New York, NY 10017. Producer of audiovisual materials for children in areas of social studies, guidance, career development and language arts. Other topics: health, home economics, consumer education, history, political science.

H.M. STONE PRODUCTIONS, INC., 6 E. 45th St., New York, NY 10017. Producers and distributors of audiovisual materials for education and industry. Filmstrips, study prints and multimedia programs covering children's stories, social studies, science, arts, humanities.

H. WILSON CORP., 555 W. Taft Dr., South Holland, IL 60473. Instructional furniture including learning centers and mobile cabinets; audiovisual furniture including instructional material storage cabinets, projection tables, rear projection units; ceramic and industrial arts furniture; library furniture and book trucks; educational recordings for K-12 in language arts, social studies, science, health, guidance.

HARCOURT BRACE JOVANOVICH, INC., 757 3d Ave., New York, NY 10017. Textbooks, children's library books, audiovisuals, games and manipulatives.

HAZELLE'S PUPPETS. Distributed by Educational Play Things, Div. of Audio Fidelity Corp., Richmond, Arlington, Norfolk, Roanoke, VA. Vinyl finger and hand puppets. Washable.

HIGHSMITH CO., INC., P.O. Box 25, Fort Atkinson, WI 53538. Library supplies and equipment: materials needed in library for home, school, institution. A-V supplies.

HOLT RINEHART & WINSTON, INC., 383 Madison Ave., New York, NY 10017. Instructional materials, kindergarten through grade 12: books, films, filmstrips, transparencies and other items dealing with language arts, math, music, social studies.

HOMER DEBO-FOX BLOCKS CO., 24401 Redwood Highway, Cloverdale, CA 95425. Floor blocks ages 2-8, 6-10; hollow blocks 2-8, 6-10; double easels 2-8, 6-10, 9-14; wood animals 2-8, 6-10, 9-14.

HUBBARD SCIENTIFIC CO., P.O. Box 105, Northbrook, IL 60062. Science books and materials for elementary and secondary levels; visual and A-V tools to correlate with major science texts: earth science, life science workbooks, student materials. Maps, globes, models, films to illustrate difficult science concepts. Discovery Packs with audio cassettes for independent learning. Write for catalog.

IDEAL SCHOOL SUPPLY CO., 440 S. 7th Ave., Oak Lawn, IL 60453. Instructional aids, manipulatives and teacher aids for preschool/elementary.

IMAGE, 3259 Prospect St., NW, Washington, DC 20007. "It's Your Turn" series created to motivate young people to understand challenges of technology. Films convey subtle interrelationships of joys and responsibilities existing in this age of technology. For use in developing insights into social and environmental concerns of today and tomorrow.

INCENTIVE PUBLICATIONS, 2400 Crestmoor Rd., Nashville, TN 37215. Teacher IDEA books and materials, presenting involvement-type activities, games, learning centers, teaching techniques, resources and hints for grades N-8. All materials include step-by-step instructions; some offer student activity pages, sample records and illustrations to reproduce.

INDIVIDUALIZED INSTRUCTION INC., AFFILIATE OF THE ECONOMY CO., P.O. Box 25308, 1901 N. Walnut, Oklahoma City, OK 73125. Individualized programs on tape cassettes and cassette players for self-paced instruction. Programs in subject areas, both remedial and supplemental, for grades K-8: supplemental reading, individualized math, speech improvement and audio readiness, oral comprehension and retention, structural English, remedial reading.

INSTRUCTIONAL AIDS, INC., P.O. Box 191, Mankato, MN 56001. Large mounted study prints depicting moods; series on earth science, oceanography, earth history, social studies. Sequential story fold-outs.

INSTRUCTO/McGRAW-HILL, Cedar Hollow Rd., Paoli, PA 19301. Instructional aids for children in grades 2-6, covering all of the vital curriculum areas.

INSTRUCTOR PUBLICATIONS, INC., 7 Bank St., Dansville, NY 14437. Charts, posters, cards, pictures, spirit duplicating writers.

INTERNATIONAL FILM BUREAU, INC., 332 S. Michigan Ave., Chicago, IL 60604. 16mm films and filmstrips for education, information and entertainment.

IT'S CHILD'S PLAY, P.O. Box 125, Pasadena, MD 21122. Equipment and materials for early education. Distributors for Creative Playthings, Mead Educational Services, Denison Teaching Manuals, Lauri Crepe Foam Rubber Materials, David C. Cook Teaching Aids, Judy Educational Aids from General Learning Corp., Maple Wood Products.

J.A. PRESTON CORP., 71 5th Ave., New York, NY 10003. Materials for exceptional children and youth for visual, auditory, tactile, social perception. Adapted classroom furniture. Perceptual-motor equipment, developmental physical education, academic teaching materials. Range of items for infancy, early childhood, later childhood and early adolescence.

JABBERWOCKY, P.O. Box 6727, San Francisco, CA 94101. Cassette Classics by Jabberwocky. Famous stories acted out by complete cast of professional actors, with sound effects and music. Read-along books and teacher's guides also available. For elementary through high school. Free catalog.

JAMES GALT & CO., INC., 63 Whitfield St., Guilford, CT 06437. Toys and play materials from 0-9 years, including material and teaching aids for nurseries, playschools and primary schools.

JANUARY PRODUCTIONS, INC., 13-00 Plaza Rd., Fair Lawn, NJ 07410. Producers of awareness sound-filmstrips for PreK-3, in areas of environmental studies, careers, consumerism, health, safety and time. Early learning cassette units, activity songs for early learning concepts: language, math, social. All with teacher's guides. Cassette units with activity sheets.

JEWEL INDUSTRIES, INC., 5005 W. Armitage Ave., Chicago, IL 60639. Aquariums and terrariums (nonleaking), animal cages and racks, plant study centers with manual, environmental studies chamber with manual.

JOHN AHLBIN & SONS, 184 Garden St., Bridgeport, CT 06605. Scissors—school and teachers' shears, left-handed, double ring training, cushion grip.

JOHN DAY CO., 257 Park Ave. S., New York, NY 10010. Urban education studies consisting of giant-size photographs, stand-up charts, picture scenes for each subject in social studies, grades 1-8.

JUDY CO., 250 James St., Morristown, NJ 07960. Judy educational aids and manipulatives for language arts, math, music, religious education, science, social studies and special education, including Invicta materials, language arts games, Toy Lending Library, Phono-Viewer, Mini Learning/Enrichment Centers, and Bridge-To-Reading (a program for use in nursery, day care and Head Start).

KAPLAN SCHOOL SUPPLY CORP., 600 Jonestown Rd., Winston-Salem, NC 27103. Toys selected from all parts of the world: manipulatives, aids for art, concepts, music, science, language arts skills, physical development, social studies, dramatic play. A-V materials, recordings, rhythm band instruments, phono-viewer. Distributors, among others, for Creative Playthings, Playskool, Rotadyne's "Little Tikes."

KENNER PRODUCTS, 912 Sycamore St., Cincinnati, OH 45202. Manufacturers of Play-doh.

KIMBO EDUCATIONAL, P.O. Box 246, Deal, NJ 07723. A-V aids for early childhood, elementary and intermediate grades, and special education.

LAIDLAW BROTHERS, DIV. OF DOUBLEDAY, Thatcher & Madison, River Forest, IL 60305. Textbooks for elementary, junior and senior high. Educational materials, kindergarten through grade 12, in math, language arts, health, English, reading, spelling, science, history/social studies, business education, driver education, Spanish-language publications.

LAURI, INC., Rt. 4, Phillips-Avon, ME 04966. Educational playthings made from colorful crepe foam rubber, to promote form and color perception for ages 2-9. Washable, rubber fit-in puzzles. Also for use in special education.

LEARNING CORP. OF AMERICA, 1350 Ave. of the Americas, New York, NY 10019. Full-color sound filmstrips created for use with Spanish-speaking children. Other filmstrip programs, cassettes, films.

LEARNING DESIGNS, INC., P.O. Box 310, Eureka Springs, AR 72632. Materials for children ages 5 and up; functional assessment instruments used by both clinicians and classroom teachers; therapeutic, developmental language arts base program. Other materials and services geared toward inservice training for teachers, paraprofessionals, and parents working with learning disabled children.

LEARNING PRODUCTS, INC., 725 Fee Fee Road, St. Louis, MO 63043. Molded blocks of stimulating shape that lock together. Bright colors. Molded ride toys and boat-slide-tunnel. Distributed by Educational Play Things, Div. of Audio Fidelity Corp., Richmond, Arlington, Norfolk, Roanoke, VA.

LEARNING RESOURCES CENTER, INC., 10655 S.W. Greenburg Rd., Portland, OR 97223. Distributors of equipment and materials for early education.

LeCRONE RECORD CO., 819 NW 92d, Oklahoma City, OK 73114. Records for activities, folk dances, hand rhythms, number and reading readiness, rest-time, rhythm band, Sunday School. Phonics, math, sounds, action and imitative, physical fitness, story time, penmanship.

LEGO SYSTEMS INC., 777 Route 7, Brookfield, CT 06490. Interlocking building pieces designed to stimulate creativity: for preschool (18 months-4 years) and childhood (4-12 years) ranges.

LIBRARY FILMSTRIP CENTER, 3033 Aloma, Wichita, KS 67211. Producer of color sound filmstrips, with either audible or inaudible cassette or record, on art, language arts, library science, metric, social studies, science, electric arc, macro and micro, oxyacetylene welding. Distributes Dukane projectors, Pixmobile equipment or Da-Lite Screens.

LITTLE KENNY PUBLICATIONS, INC., 1315 W. Belmont Ave., Chicago, IL 60657. Bulletin board aids, games on math and language, mobiles for middle grades, game-making materials for your own games.

"LITTLE TIKES" BY ROTADYNE, INC., 8705 Freeway Dr., Macedonia, OH 44056. Complete line of rotationally molded preschool toys which include toy chests, Ride-ons, Ride-ins, table and chair sets, situation play products. Molded of polyethylene plastic.

LOUISE KOOL & SON LTD., 132 Sunrise Ave., Toronto, Ont., Can. M4A 1B6. Educational materials, records, books for primary grades.

LYNDON CRAFT EDUCATIONAL EQUIPMENT, P.O. Box 12, Rosemead, CA 91770. Produces equipment for infants through kindergarten age, stressing quality and design. Motor sensory development: three-way walking beams, rotating trunk board, balance boards, climbing stairs, stacking tower, moving puzzles, etc. Dramatic play: durable hollow blocks including accessories, housekeeping furniture with actual metal spigot and stove grates.

LYONS BAND, DIV. OF MAGNAVOX CO., 430 Wrightwood Ave., Elmhurst, IL 60126. Learning materials for preschool, kindergarten, primary, exceptional children. Rhythm band instruments, school equipment, educational recordings, games, puzzles. Distributors, among others, for Milton Bradley, General Learning, Judy, Sifo.

M. HOHNER, INC., Andrews Rd., Hicksville, L.I., NY 11802. Instruments for musical education.

M.J. CHASE CO., 156 Broadway, Pawtucket, RI 02860. Manufacturers of dolls.

MACALASTER SCIENTIFIC CO., Rt. 111 & Everett Turnpike, Nashua, NH 03060. Laboratory and scientific equipment, science curriculum materials, transparencies, A-V equipment, science teaching aids; standard laboratory equipment. Materials include items for all areas of science.

MACMILLAN OF CANADA, 70 Bond St., Toronto, Ontario, Can. Learning materials to support core programs for early learning experiences in preschool and primary grades, particularly in math and science areas.

MACMILLAN PUBLISHING CO., INC., 866 3d Ave., New York, NY 10022. Early learning curriculum and program materials, including the *Threshold™ Early Learning Library*, Early Childhood Discovery materials developed by Bank Street College of Education, children's books, professional books and curriculum aids.

MACMILLAN SCHOOL SUPPLIES, INC., 1945 Hoover Ct., Birmingham, AL 35226. Elementary instructional materials (K-8) in various areas of concentration: math, language arts, special education, arts and crafts, music, science, social studies, early childhood.

MAFEX ASSOCIATES, INC., 90 Cherry St., Johnstown, PA 15902. Books and soft goods for education of the exceptional child: from early learning through vocational studies, texts and workbooks, professional guides and testing materials, arts and crafts.

MAPLE WOOD PRODUCTS CO., INC., 60 Merrimac St., Amesbury, MA 01913. Educational toys, puzzles, blocks, riding toys, housekeeping units, swing sets, climbing gyms, classroom storage units, easels, doll houses, doll house furniture, metric teaching aids.

MARLON CREATIONS, INC., 29-04 37th Ave., Long Island City, NY 11101. Educational items and teaching aids from preschool through approximately 6th grade. Games, puzzles, self-teaching articles. Hand-eye coordination; color, number and object recognition; math, reading, etc. Free catalog.

McGRAW-HILL FILMS, 1221 Ave. of the Americas, New York, NY 10020. Producers of 16mm motion pictures, filmstrips, 8mm film loops and multimedia kits, videotape cassettes; for all curriculum areas in grades K-12, college and adult.

MEAD EDUCATIONAL SERVICES, 1391 Chattahoochee Ave., N.W., Atlanta, GA 30318. Early childhood manipulative materials, readiness materials, games, multifunctional equipment. Send for catalog.

MELODY HOUSE CO., 819 N.W. 92d St., Oklahoma City, OK 73114. Phonograph records: phonics, music, math, dance, movement, color concepts, body awareness, sounds. Filmstrips: phonics, Getting To Know Metrics. Preschool through elementary. Free brochure classifies activities to grade level.

MEXICO FORGE-KILGORE, P.O. Box 565, Reedsville, PA 17084. Outdoor recreation equipment; steel and galvanized construction; tested.

MILLER-BRODY PRODUCTIONS, INC., 342 Madison Ave., New York, NY 10017. Producer/distributor of enrichment audiovisual materials—including records, cassettes, sound filmstrips, multimedia sets. Programs cover early education, reading readiness/reading, social studies (bilingual/bicultural), math, special education.

MILLIKEN PUBLISHING CO., 1100 Research Blvd., St. Louis, MO 63132. Transparency-duplicating books, transparency books, duplicating books, filmstrips with records and cassettes, study prints with duplicating masters.

MILO PRODUCTS CORP., P.O. Box 156, Grantham, PA. 17027. Manufacturer and distributor of equipment and learning aids for early childhood education. Equipment items: tables and stack stools, mobile storage cabinets, balance beams, screens, easels. Learning aids: DADO Modular Space Blocks; perceptual skills boards; threading boards; SO, SEW Stitch Kit.

MILTON BRADLEY/PLAYSKOOL, INC., Springfield, MA 01101. Games, flash cards, poster cards, GOAL and Enrichment Units, cassette-manipulative programs, art materials, construction paper. Playskool educational, stacking, coordination toys; wooden inlay maps, puzzles; hardwood building and hollow blocks; hardwood natural finish riding toys, housekeeping units; manipulative materials; learning dolls; American Bricks; Lincoln Logs; wood builder sets.

MIND/MATTER CORP., P.O. Box 345, Danbury, CT 06810. Marketers of manipulative devices for teaching, mainly in fields of early childhood and elementary math, with emphasis on Unifix Structural Math Material and devices for teaching metric system. Distributors of YAK PHONICS, new approach to teaching beginning reading. PreK through grade 8.

MOODY INSTITUTE OF SCIENCE, 12000 E. Washington Blvd., Whittier, CA 90606. Educational films (16mm) and filmstrips (captioned and with sound) in areas of science and social science.

MOR-PLA, Box 414, Detroit, MI 48231. Heavy duty blocks and play materials.

MOTIVATION RESOURCES, M-R FILMS, 7106 Waring Ave., Los Angeles, CA 90046. Educational films for mentally retarded. Group 1 (preschool and primary grades): "Head to Toe" (body parts); "Circles, Squares, & You" (visual perception); "The World Is. . ." (audio-tactile perception). Group II (secondary and adult): "How Do I Look?" (personal cleanliness); "Everyone Will Thank You" (social behavior). Rental or purchase.

MOYER VICO, LTD., 25 Milvan Dr., Weston, Ontario, Can. M9L 1Z1. Early learning products, math and language arts learning aids, art materials, ceramic equipment, art books, transparencies, motion transparencies, filmstrips, metric learning materials, sound page equipment, sound pages and prepared materials, contour surveying equipment and materials, maps and globes, furniture, library equipment and supplies.

NATIONAL AUDUBON SOCIETY, EDUCATIONAL SERVICES DEPT., 930 3d Ave., New York, NY 10022. Audubon Aids suited to studies in ecology, conservation, earth science and social studies; relate to BSCS, language arts, music and art curricula. For all levels of family, camp and school nature programs.

NATIONAL EDUCATION ASSOCIATION, 1201 16th St., N.W., Washington, DC 20036. Filmstrips for early education through later adolescence developmental levels. Professional materials for educators on all levels K-12. Books and audiovisual materials.

NATIONAL GEOGRAPHIC SOCIETY, 17th & M Sts., N.W., Washington, DC 20036. Early childhood—Books for Young Explorers; later childhood—Books for Young Explorers, National Geographic *World*; early adolescence—National Geographic *World*, filmstrips, classroom films, books, special publications, maps.

NEW DIMENSIONS IN EDUCATION, INC., 160 Dupont St., Plainview, NY 11803. "Self-starter" activity books (Star Books) for pre-readers. Producers of Alpha Time and Alpha One, reading programs. Distributor, Audio Fidelity Corp.

NEWCOMB AUDIO PRODUCTS CO., 12881 Bradley Ave., Sylmar, CA 91342. Manufacturers of phonographs, recorders, phon/pa systems, listening centers, radios; for education and industry.

NOVO EDUCATIONAL TOY & EQUIPMENT CORP., DIV. OF W.H. SADLIER, INC., 124 W. 24th St., New York, NY 10011. Playground equipment, aluminum equipment, tables, chairs, desks, stacking and folding cots; toys, building and hollow blocks, block play accessories; flannel boards, cut-outs, visual teaching aids; doll corner equipment; puppets, stages; rhythm band instruments, phonographs, records; books, games; arts and crafts supplies. Nursery through primary. Free catalog No. 30CE.

NYSTROM, DIV. OF CARNATION CO., 3333 N. Elston Ave., Chicago, IL 60618. Elementary and secondary Multimedia Learning Programs in social studies, science and health. Also maps, globes, models, charts and filmstrips.

ODEON FILMS, INC., 1619 Broadway, New York, NY 10019. 16mm educational films about day care, sex-role stereotypes, women's studies, social relations. Free catalog available.

OLYMPUS PUBLISHING CO., 1670 E. 13th South, Salt Lake City, UT 84105. Producer of Olympus Early Childhood Education package, a home-based preschool education program designed to help train group leaders, who then conduct training sessions for parents.

ONTARIO INSTITUTE FOR STUDIES IN EDUCATION, 252 Bloor St. West, Toronto, Ont., Can. M5S 1V6. Thinking Games: a new, tested collection of games designed to develop children's thinking skills. For home or classroom; ages 5-8 and 8-12.

PERENNIAL EDUCATION, INC., 1825 Willow Rd., Northfield, IL 60093. Films and video-cassettes about sex education, nutrition, safety and general health education; elementary and junior high.

PERIPOLE RECORD CORP., Lewistown Rd., P.O. Box 146, Browns Mills, NJ 08015. Manufacturers of musical instruments for education and recreation.

PHILIP SPECIALTY CO., 3018 E. Main, Grand Prairie, TX 75050. SIT/O/ROUND furniture for play, dining or study; colorful tables and stools of polyester; plastic tops and heavy wall plastic pipe for center posts.

PHOEBE JAMES RHYTHM RECORDS, P.O. Box 475, Oak View, CA 93022. Rhythm records—a method for giving rhythms to children.

PHONOVISUAL PRODUCTS, INC., 12216 Parklawn Dr., Rockville, MD. 20852. Supplementary materials for phonics reading. Wall charts, textbooks, workbooks, games, etc. For K-6, special education, adult education.

PICTURA FILMS DISTRIBUTION CORP., 43 W. 16th St., New York, NY 10011. 16mm educational films.

PLAY-ART EDUCATIONAL EQUIPMENT CO., 20 W. Armat St., Philadelphia, PA 19144. Materials for nursery school through secondary grades. Art supplies, educational toys, teaching aids, visual aids, etc. Distributors of all major lines of teaching materials.

PLAYGROUND CORP. OF AMERICA, 29-24 40th Ave., Long Island City, NY 11101. Child-scaled indoor/outdoor play equipment for preschool and lower elementary. Playforms and Playscape play environments for 3- to 12-year-olds. Rehabilitative play equipment for handicapped children. AquaLearner above-ground swim training pools.

PLAYSKOOL, 4501 W. Augusta Blvd., Chicago, IL 60651. Play materials for developing senses and solving problems: maple wood blocks and vehicular toys; materials for sorting, counting, manipulating; indoor big-muscle equipment; housekeeping furniture, work bench.

PLOUGH PUBLISHING HOUSE, Society of Brothers, Rifton, NY 12471. Illustrated books of poems, songs and stories for children, nursery through age 14; express joy in nature, turn of the seasons, the family, people around us. Christmas books. Records of nature, seasonal and holiday songs sung by children of Society of Brothers.

PLUME TRADING & SALES CO., INC., P.O. Box 585, Monroe, NY 10950. Complete line of supplies and kits for an Indian program. Books, records, tepees, etc. (note advertisement.)

POLISHED APPLE, THE, DIV. OF WILHITE PRODUCTIONS, 3742 Seahorn Dr., Malibu, CA 90265. Three Nutrition Education sound filmstrips for the primary grades, produced in cooperation with nutrition educators. Filmstrip set includes "Break the Fast," "George Gorge and Nicky Persnickity," and "The Nutrient Express." No commercial message.

PORTER EQUIPMENT CO., 9555 Irving Park Rd., Schiller Park, IL 60176. Indoor equipment for muscle and motor development: horizontal ladders, balance boards. Basketball backstops, gym divider curtains, gymnasium apparatus, recreation equipment.

PRACTICAL DRAWING CO., 2205 Cockrell, Dallas, TX 75215. Southwestern area distributor, serving Texas and adjoining states primarily, from Dallas warehouse stocks. Representing major manufacturers of instructional materials, supplies and educational products for public and private school market, K-12, early childhood, special education, day care, preschool. Request catalog on institution letterhead to P.O. Box 5388, Dallas 75222.

PRENTICE-HALL LEARNING SYSTEMS, P.O. Box 47X, Englewood Cliffs, NJ 07632. Produces teacher-oriented resource materials for teaching and learning of present-day math concepts and computational skills: books, activity cards, gameboards, language arts and math resource kits, manipulatives, etc. Materials deal in all disciplines at preschool, elementary, junior high and remedial levels.

PRENTICE-HALL MEDIA, INC., 150 White Plains Rd., Tarrytown, NY 10591. A new publishing alliance offering instructional material in all curriculum areas for PreK to adult. The combined educational resources of Schloat Productions and Scott Education provide the filmstrips of Jam Handy, Schloat Productions, H.M. Stone, Thorne film loops, tecnifax transparencies and multimedia kits.

PRIMA EDUCATION PRODUCTS, DIV. OF HUDSON PHOTOGRAPHIC INDUSTRIES, INC., Irvington-on-Hudson, NY 10533. Filmstrips, sound/silent, for early grades and bilingual education. Distributor, Audio Fidelity Corp.

P.S.M., INC., 11000 Reisterstown Rd., Owings Mill, MD 21117. Manufacturer of early childhood educational toys and furniture for the classroom and of wood play structures for playgrounds and parks. Complete layout and design facilities including equipment for special education. All products shipped from port of Baltimore, no land freight.

PYRAMID FILMS, P.O. Box 1048, Santa Monica, CA. 90406. Short films (5-50 min., 16mm), Super-8 or videocassette. Distribution at all levels: educational, institutional, public library, etc. Twenty sub-distributors in foreign countries. Language arts, nonnarrated, children's stories, etc.

R.H. STONE PRODUCTS, 13735 Puritan Ave., Detroit, MI 48227. Mor-Pla Jumbo-Blox for independent learning; Mor-Pla four-passenger wheel toys for social play; Mor-Pla storage ideas useful into adult years. Annual free catalog of equipment for ages 3 to 6. Mail order service since 1938.

RAMSGATE FILMS, 704 Santa Monica Blvd., Santa Monica, CA 90401. 16mm films and video-cassettes on safety, sports, health, language arts and other topics. Free catalog available.

RAND McNALLY & CO., Box 7600 Chicago, IL 60680. Elementary programs feature Young America Basic Reading Program; SCIS science kits; Developing Mathematical Processes (DMP), a new math program. Junior high texts cover American history, world culture, foreign language; three-part Interaction science series. Maps, globes.

RCA RECORDS, EDUCATIONAL SALES, 1133 Ave. of the Americas, New York, NY 10036. Producer and distributor of educational records, cassettes, cassette/storybook sets for music appreciation, language arts and creative movement areas, including "Dr. Seuss" titles, "Dance-A-Story" and "Adventures in Music."

RHYTHM BAND, INC., P.O. Box 126, Fort Worth, TX 76101. Manufactures and distributes musical instruments designed for use with children in early childhood: records, books, bell sets, rhythm instruments, string instruments, keyboard instruments, recorders and ethnic instruments. Complete color catalog.

RHYTHMS PRODUCTIONS, Whitney Bldg., Box 34485, Los Angeles, CA 90034. Record for rhythms, music, language arts, folk dance, etc. for all ages. Games and multimedia materials for early learning concepts including metrics and math programs. Write for free catalog.

ROBERT J. BRADY CO., Rt. 197 & 450, Bowie, MD 20715. Books and audiovisual materials on the human body, the environment, drugs, sewing, social studies, physical education, first aid, science, health and math and on careers in health and the helping professions.

S&S ARTS & CRAFTS, DIV. OF S&S LEATHER CO., Colchester, CT 06415. Craft materials and basic art supplies for therapy, education and recreation. Write for catalog on your official stationery.

SALENGER EDUCATIONAL MEDIA, 1635 12th St., Santa Monica, CA 90404. Produce and distribute sound filmstrip packages for early childhood and primary grades. Packages consist of sound filmstrips, records or cassettes, activity cards, games and teacher's manual.

SCHOLARS PRESS, INC., Box 5455, Midland, TX 79701. Manufactures materials created to help communicate ideas graphically and to foster a love of learning: posters, decals, mini-books, die-cut letters and cassette tape programs.

SCHOOL DAYS EQUIPMENT CO., 973 N. Main St., Los Angeles, CA 90012. Furniture: nursery, kindergarten; also for teacher and office, auditorium, folding. Equipment: play (indoor and out) and visual furniture; toys, all ages; easels. Supplies: arts and crafts; school and art papers, pencils, markers, crayons, paste, scissors. Curriculum materials: readiness, tapes, cassettes, duplicator, workbooks, transparencies, study pictures.

SCHWIND & SON, P.O. Box 457, Elyria, OH 44035. Framed and unframed reproductions to promote art appreciation for students of all ages and to decorate corridors, classrooms and offices. Also sell pictures to libraries for their picture lending program.

SCIENCE WORKSHOP, INC., P.O. Box 9785, 3132 Frontenac Ct., Atlanta, GA 30319. Manufacturers and distributors of science materials, including audiovisual.

SHADOWSTONE FILMS, 1402 Duke University Rd., Durham, NC 27701. Produces sponsored films dealing with the education of children ages 1-14. Past productions have included films on day care and learning disabilities, for example. Also distributes (i.e., sells and rents) its films to interested educational groups and institutions.

SHINDANA TOYS, 6107 S. Central Ave., Los Angeles, CA 90001. Manufacturer of Black toys that young Black children can relate to. Designed to foster love among children of all races.

SIMILE II, 218 12th St., P.O. Box 910, Del Mar, CA 92014. Educational simulations and games in the area of social sciences.

SIMPLEX TOYS, Steinmeier & Co., Gestelsestraat 7, Aalst, N.B., Holland. Play materials and puzzles for young children.

SKILL DEVELOPMENT EQUIPMENT CO., 1340 N. Jefferson, Anaheim, CA 92807. Foam-filled, inflatable and hard plastic products for developing motor skills and furnishing classrooms and learning centers. Now used in preschools, public schools and schools for the mentally retarded through the U.S. and abroad.

SOCIETY FOR VISUAL EDUCATION, INC., 1345 Diversey Parkway, Chicago, IL 60614. Filmstrips, slides, study prints and learning modules which provide floor games, board games, cassette/lesson cards and related items for early childhood education.

SOUNDINGS, 2150 Concord Blvd., Concord, CA 94520. Teacher education films on kindergarten and early childhood: *A Child Creates*, *Creative Kindergarten*, and *Visualization—A Key to Reading*. 16mm color. Sales prices and rental fees on request.

SPEEDWAY MANUFACTURING CO. INC., 1219 Bender Ave., Holly Hill, FL 32017. MERRY-GO-CYCLE: designed for nursery schools, kindergartens, etc.; up to 8 children, 3-8 years; 4-seat therapeutic model available for disabled children. MERRY-GO-TUB: up to 5 children, 3-8 years. Minimum space required for all units (compact); used indoors or outdoors, fully guaranteed (see advertisement).

SPIN-A-TEST PUBLISHING CO., P.O. Box 823, Pleasanton, CA 94566. Open-ended games with prescribed subject matter for individualization. 36" vertical games for learning disabled, M.R., speech and reading handicapped, hard-of-hearing (K-8). Game Power for Phonics, by Cecil Alberts: contains 1,280 phonics games for poor readers.

SPOKEN ARTS, INC., 310 North Ave., New Rochelle, NY 10801. Producers of educational media: sound filmstrips, tape cassettes and records in areas of children's literature, language arts/skill development, social sciences, music, math, foreign languages, bilingual education and early childhood education.

ST. PAUL BOOK & STATIONERY CO., 1233 W. County Rd. "E", St. Paul, MN 55112. Distributor, 3-7 Playways, School products (preschool through college), artists' materials, school and office furniture, toys, games, workbooks.

ST. REGIS PAPER CO., 150 E. 42d St., New York, NY 10017. Art materials; instructional materials—chart tablets, etc.

STALLMAN EDUCATIONAL SYSTEMS, INC., P.O. Box AL, Roslyn Heights, NY 11577. Producers of children's educational records, filmstrips and music books.

SUTHERLAND LEARNING ASSOCIATES, 8425 W. 3d St., Los Angeles, CA 90048. Project Bilingual, a multimedia learning system for Mexican-American students at the beginning level, is a program of social studies and oral language development in both English and Spanish. Includes teachers' guides, animated films, sound filmstrips, audiotapes, picture cards, student worksheets, etc.

TANDEM PRESS, INC., PUBLISHERS. Tannersville, PA 18372. ABCs of Black History Teaching Kits for Early Childhood Grades: featuring 26 posters, size 13 × 18, with biography, classroom activities and Black personalities printed on reverse side; cassette of 26 original songs recorded by Lionel Hampton and band; songbook; teacher's manual.

TAYLOR PUBLISHING CO., P.O. Box 597, Dallas, TX 75221. Posters: social studies series, kindergarten to grade 6: basic concepts of man's relation to man; realistic experiences in the familiar world around children. Supplementary social studies (language arts). Picture reading books for ages 2 to 8.

TEACHER STORE, THE, 130 Branch Rd., Vienna, VA 22180. Distributors for many producers, including Instructo, Judy, Incentive, Milton Bradley, B&T, Lauri, Trend, Love.

TEACHING AUDIALS & VISUALS, INC., 250 W. 57th St., New York, NY 10019. Multimedia, audiovisual kits (containing sound tapes, cassettes, filmstrips, wall charts, books, etc.) for teaching French, Spanish and English for non-English speakers. Songs and song-game-lessons for kindergarten through elementary. Advanced foreign language teaching materials through junior high school. Free catalog.

TEACHING CONCEPTS, INC., 230 Park Ave., New York, NY 10017. Games designed to help children learn various subjects through play: *Read Around*—11 Great Games for Reading Skills; *Circulation*—Incredible Journey Inside the Body; *Space Hop*—Interplanetary Intrigue; *Super Sandwich*—Nutrition Fun; *Fraction Bros. Circus*—Fraction Action Made Easy.

TEACHING RESOURCES CORP., 100 Boylston St., Boston, MA 02116. Programs and materials for development of basic perceptual, motor, cognitive, reading, language and math skills. For early childhood K-2, learning disabilities and special education.

TEACHING RESOURCES FILMS, 2 Kisco Plaza, Mt. Kisco, NY 10549. An educational service of *The New York Times*, 2 Kisco Plaza, Mt. Kisco, NY 10549.

TEECH-UM CO., INC. P.O. Box 4232, Overland Park, KS 66204. Educational games and learning systems for elementary children and special education students.

TEXTURE FILMS, INC., 1600 Broadway, New York, NY 10019. Educational films for all age groups. Subjects range from Islam to mime, African and American Indian folktales to sex education; a film portrait of the first woman jockey and a film portrait of a Big Town.

THREE PRONG TELEVISION PRODUCTIONS, 120 S. LaSalle St., Chicago, IL 60603. Films created to stimulate curiosity, imagination and activity ideas through the use of folk-singing, dancing, puppets and directed play. Appropriate for teachers and parents as well as for young children.

3-7 PLAYWAYS, 1233 W. County Rd. "E", St. Paul, MN 55112. Big-muscle equipment, blocks, child-size housekeeping toys, transportation toys, perceptual toys, hand-skill toys. Rhythm instruments and recordings; science, math, language arts aids.

THRESHOLD™ PROGRAM AND MATERIALS FOR EARLY LEARNING CENTERS (see Macmillan Publishing Company).

TONKA TOYS, DIV. OF TONKA CORP., 5300 Shoreline, Mound, MN 55364. Nonriding transportation toys, preschool toys, hobby kits.

TOT TOYS, Box 87, Wadena, MN 56482. Wooden toys designed to encourage child's imagination and abilities: ALPHA BLOCKS, 42 hardwood blocks of 9 different shapes and alphabet guide; TAKE-A-PARTS, 7 vehicles with each consisting of 11 or 12 red oak pieces that can be taken apart and put together (bus, tank truck, etc.).

TREND ENTERPRISES, INC., P.O. Box 3073, St. Paul, MN 55165. Publishes language arts, social studies and math materials for early education, including bulletin board cut-out sets, discussion-starter posters, mini-poster cards, and various forms of games and manipulatives. Stress on individual thinking, problem-solving, critical thinking. Resource guides accompany many titles.

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UNITED LEARNING, 6633 W. Howard St., Niles, IL 60648. Produces and sells audiovisual sound filmstrips and multimedia programs for children in preschool through high school.

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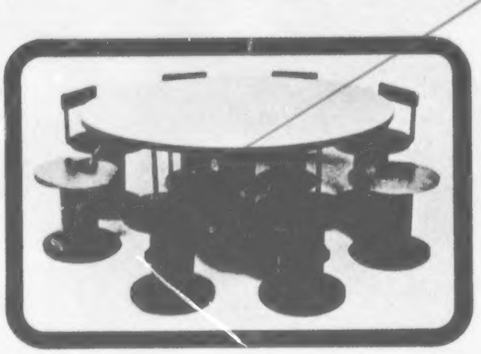

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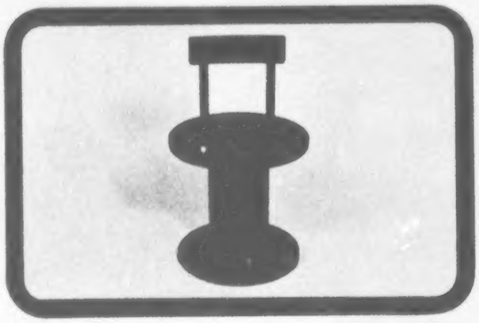

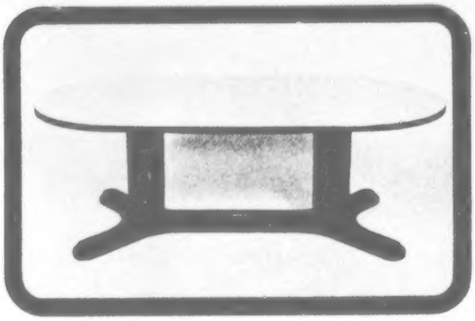

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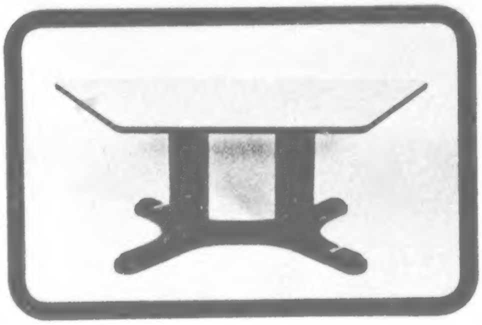

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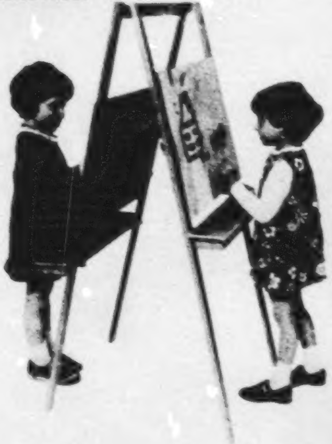

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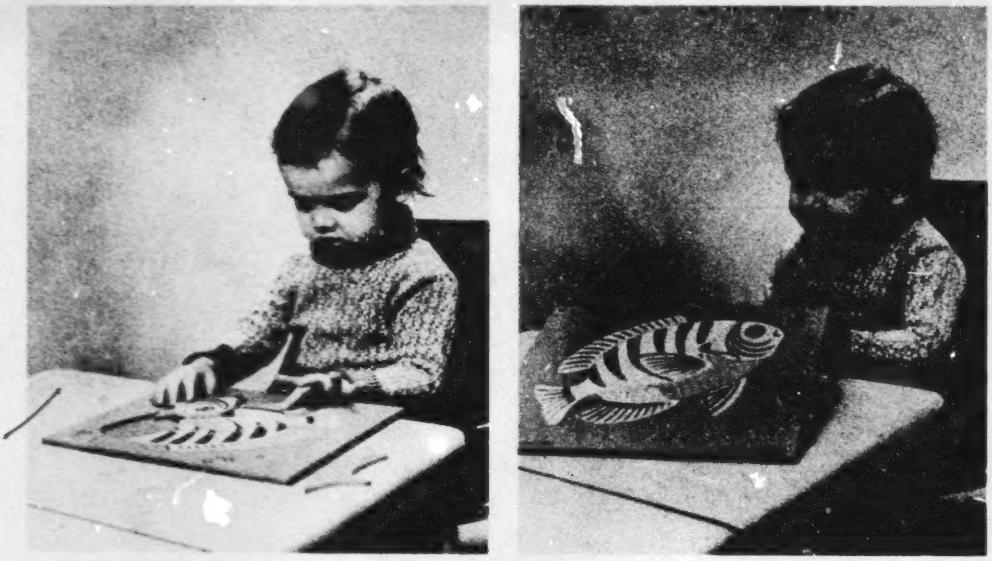

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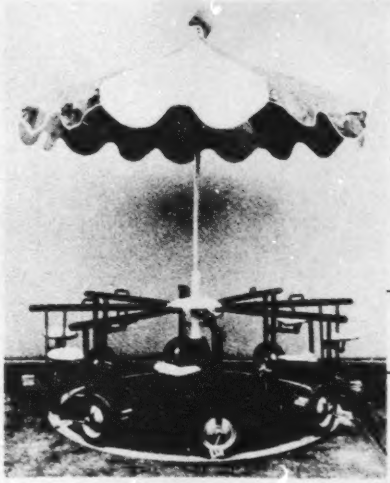

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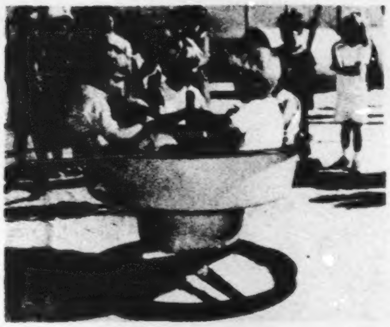

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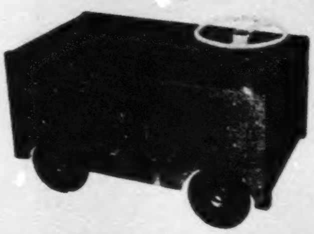

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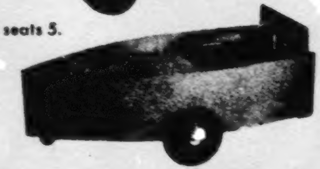

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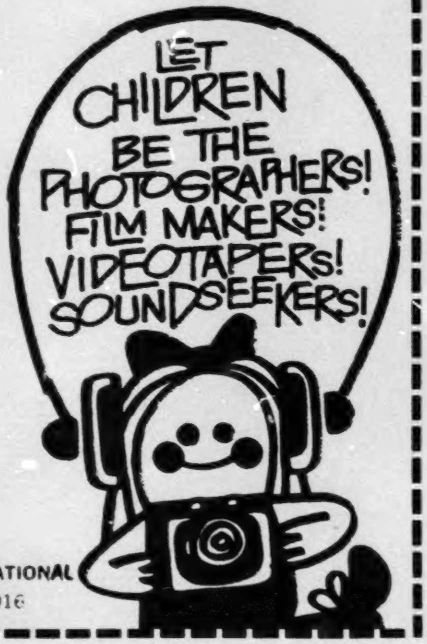
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